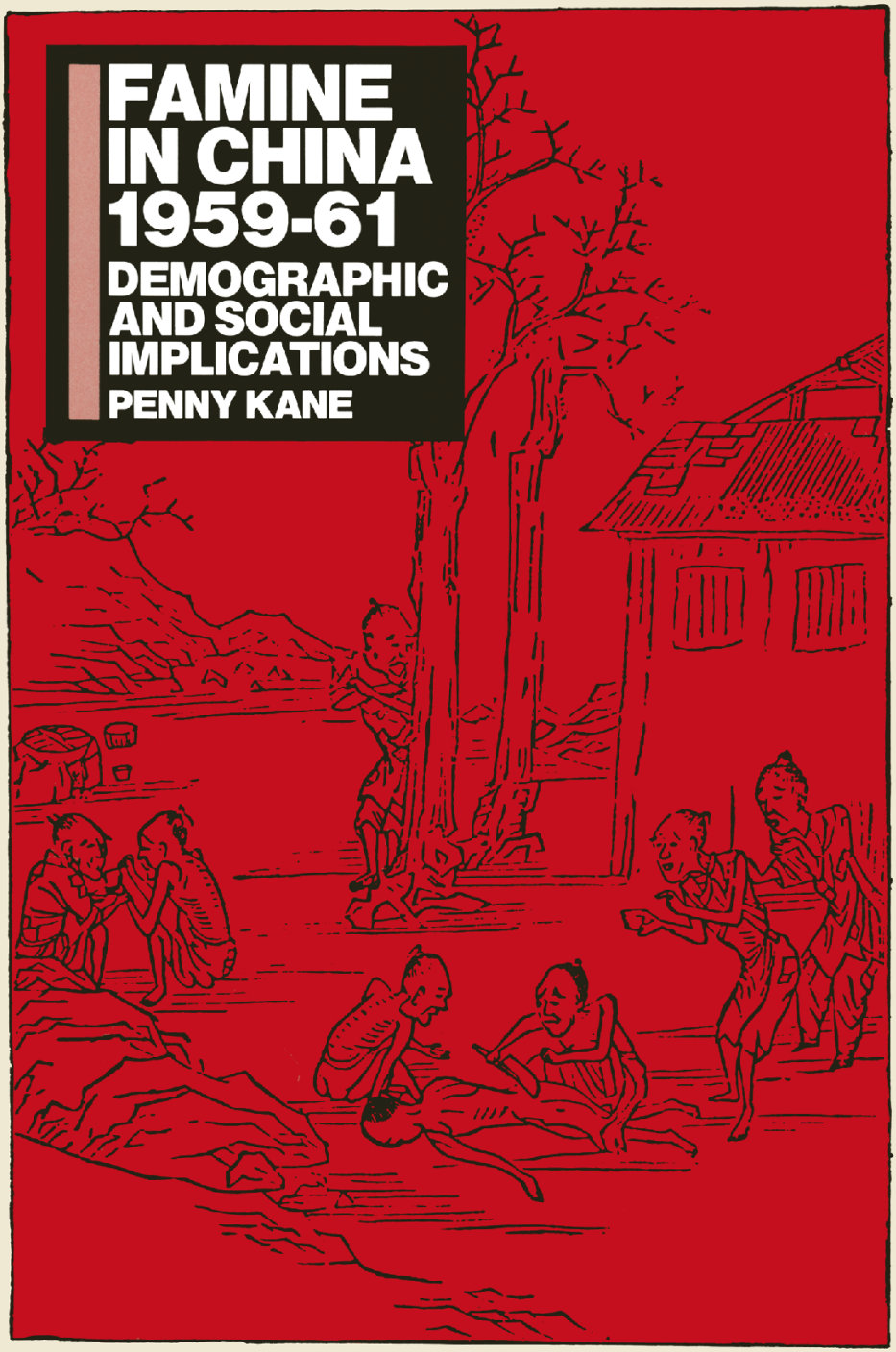
FAMINE IN CHINA 1959-61

DEMOGRAPHIC AND SOCIAL IMPLICATIONS

PENNY KANE



FAMINE IN CHINA, 1959–61

Also by Penny Kane

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Penny Kane

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Acknowledgements

This book arose entirely out of an idea by Lado T. Ruzicka. It was at his suggestion that I began to look to see whether there might be enough material on the Chinese famine of 1959–61 to justify a paper about it. Somewhat to my surprise, I discovered that the data were not as sparse as had often been thought, and the paper was duly written and presented at a Seminar on Social and Biological Correlates of Mortality, held jointly by the International Union for the Scientific Study of Population and the Japanese National Institute for Research Advancement, in Tokyo, November 1984. I am most grateful to these two organisations for the invitation to attend the seminar and the financial support which enabled me to do so. I am also grateful to those seminar participants who commented on the paper, and to Dr Jonathan Mirsky who produced detailed comments on an early draft.

In the course of preparing the paper I became increasingly aware of the number of potential sources of information about the difficult years of 1959–61, or of clues as to what happened during those years, and increasingly frustrated by the limitations of length imposed by a conference framework. I decided that, although there is still much to be discovered about the famine, a short book which at least identified its major causes, the area most affected and the impact on the people, might contribute to the existing studies of famine and provide a focus for further research.

A number of Chinese spoke of the famine experiences which they or their families remembered and their recollections were invaluable. I have also received helpful comments and encouragement from a number of other people, including Professor Jack Caldwell, Dr Alan Lopez, Dr Martin Albrow and Dr Kenneth Hill. Lado Ruzicka read and commented on the entire manuscript and provided constant support during the writing. Neither he, nor any of the others, is of course responsible for errors or omissions. Nonetheless, this book is for Lado.

Explanation of Chinese Terms

catty/jin	1.1 pounds
li	⅓ of a mile
mu	⅙ of an acre
tael	Unit of account equivalent to one ounce of silver; in the 1870s worth around 6 shillings
yuan	Chinese currency; at different periods since 1949 worth between around 3 and 5 to one pound; 100 fen = 1 yuan

Note on Chinese words and names

As always with China, there is the problem of Chinese names. Contemporary China uses the pinyin form of Romanisation, and in general this has been followed here. However, especially in Chapter 3, I used sources which give the older spellings for people and places they describe, and I have left those spellings as they were originally recorded, except where they can be easily recognised in the pinyin form, as is the case for provinces and dynasties. A few of the sources for later chapters – for example, the Crooks or Hinton – still used the old spelling and here again, I have not attempted to change the spelling of names of villages or individuals.

Another problem is that of Chinese measurements: traditionally a catty or li, for example, varied in different parts of the country. The modern standardised definitions are given at the beginning of the page; which does not imply that all the sources given here used the measurements in this standard way. But I have only used Chinese measurements when they are given in the source for internal comparison, and the exact definition is less important than the relationships of the measures. Finally, provincial boundaries and other spatial measures have changed over time; care should be taken to avoid comparing statistics from different periods.

When shall we truly obtain deliverance from the Kingdom of necessity?
Mao Zedong

1 The Search for Sources

> Were it not for the fact that there is a lack of statistical data on both production and population in China, it might be possible to assess this problem of population in more definitive terms. But as Dr Arthur Smith, in reply to a newspaper request for the 'bottom facts' of a Chinese situation once said, there is no bottom in China, and no facts. One can only speak from experience of the country, which, no matter how long the residence or how observant the mind, can at the best be merely a cursory survey. Such is the magnitude of China.

This statement, by H. B. Elliston of the Chinese Government Bureau of Economic Information, was quoted by Mallory more than half a century ago in his clasic *China–Land of Famine* (1926). It still springs from the page for any student of China, and particularly for any student struggling with the questions of production and population during the great Chinese famine of 1959–61. Indeed, the most frequent question I encountered from demographers and China specialists, when writing this book, was where was I going to find any data for the period? It was not until 1982, for instance, that the Chinese government released the population totals and vital rates for the years 1959–61: several years after they had published the rest of the time-series from 1953 onwards.

In fact, however, there are now more sources of data than is generally recognised. The difficulty is to find them, and to recognise the fragments of famine information in a mass of other material. In many instances, the sources listed here devote only a few passing sentences to the famine in the course of an entire paper or book, whose subject may be entirely different. Putting together these fragments can be compared to completing a jigsaw puzzle, in circumstances where one has no picture of the finished puzzle as a guide, and where there is no certainty that the assorted pieces come from that particular puzzle in the first place. What has been surprising, and gratifying, is that most of the pieces do fit together; they show the same picture and reveal consistent trends and a common experience. There are very few contradictory findings. As a result, I think it is possible to accept the completed jigsaw as a valid outline of what happened in the 1959–61 famine, although the details, particularly about differing provincial experience, may be

modified in the light of additional data as these are forthcoming. After all, it is only in the last three years that data have been released from China which begin to make it possible to undertake any study of the great famine at all. However, it would probably be over-optimistic to assume that additional releases of information will solve all the remaining questions relating to the crisis. Famine in any country, like other social phenomena, is seldom documented as adequately as one would wish.

OFFICIAL CHINESE STATISTICS

Sources of data on the famine can be divided into several broad groups. The first covers official Chinese statistics, and may be subdivided further into population statistics and other statistics on production (especially agricultural), and other aspects of the environment. Population statistics were for many years considered controversial by those outside China: they appeared in fragmentary form and demographers were often doubtful about their validity. Most were based on the registration of births and deaths; the results of the 1964 census were not published and its existence was for many years not officially admitted. From 1978 onwards, however, an increasing volume of population statistics was released, and in 1982 a third population census was carried out. In the same year a One Per Thousand Population Fertility Survey was undertaken, which included retrospective questions about the previous fertility behaviour of respondents. Results from the survey were promptly published (State Family Planning Commission, 1983), as were many of the findings of the 1982 census and, for comparison, some of the findings of the 1964 census (Population Census Office, 1982 and 1983).

It is generally agreed that the 1982 census (for which the Chinese received considerable assistance from the UN Fund for Population Activities) was meticulously carried out and that its results were of a high standard of accuracy. There is also agreement that the 1964 census appears to have been a well-conducted one, and that the consistency between the two in the trends and patterns they show is high. The fertility survey was a national sample survey of a third of a million women which asked questions on marriage, pregnancy history, contraceptive use and abortion. It involved detailed discussions not only with the woman herself, but often with other

family members and neighbours, and, while it may suffer from the usual problem of recall on the part of the older women, it did manage to capture a number of events which escaped the vital registration system. Results from the fertility survey also confirm the over-all trends and patterns of fertility as shown by the censuses and vital registration systems. (For more detailed discussions of the reliability of the censuses and the fertility survey, see, for example, Caldwell, Bracher *et al.*, 1984; Coale, 1984; Kincannon and Banister, 1984; Calot, 1984; Hill, n.d.)

China's statistical systems, in particular as they apply to agriculture, have been discussed by Stone (1982, pp. 205–45). There are three major systems: a central system operating at the national, provincial and country levels; a system associated with specialised ministries at each of these levels; and statistical collection in communes and factories. The State Statistical Bureau is responsible for the national organisation and direction of statistical work, using data from two sources: surveys and standard reporting systems. Periodic stratified surveys take place on, for example, output, peasant household income and expenditure, and costs of agricultural production. Representative communes, brigades and teams from some 10 per cent of counties within each province are selected to complete these surveys which are conducted directly by the Bureau. The Bureau also issues standard reporting forms on various topics which are designed to be completed at the local level using primary data obtained for each team in China. These compilations are open to error and to abuse during periods of disorder and the Bureau has tended to treat them with caution and to rely largely on its own surveys. In addition to its own compilations, the Bureau frequently endorses or adjusts statistics collected independently by the Ministry of Agriculture. Although considerable room remains for improvement of basic methods and coordination between independent systems, in general, Chinese statistics are considered to compare well with those of most developing countries, and in recent years much effort has gone into improving their quality and consistency.

For the period with which we are concerned there was, until the publication of complete time-series of statistics in the 1983 *Statistical Yearbook of China*, very little information available and what there was appeared, again, in fragmentary form. A question remains, however, as to the completeness and accuracy of the statistics for 1959–61 presented in this volume.

The head of China's State Statistical Bureau, Li Chengrui, has

described how the Bureau compiled the statistics for the 'decade of turmoil' – the Cultural Revolution (Li Chengrui, 1984). He points out that quite of a lot of statistics were collected at the local level, even though they were never properly aggregated or coordinated. In addition, for the compilation of the time-series, statisticians collected and cross-checked figures on, for example, agricultural output from several sources, including the local 'Headquarters for Grasping Revolution and Promoting Production', and the commercial and food departments, and compared them with food price fluctuations at local markets. A number of retrospective surveys asking for multi-year recall have provided further checks or amplifications. Li's assessment of the final outcome is that the figures, 'despite a certain amount of estimation, are reliable on the whole as they are based on original records and have gone through repeated checking' (Li Chengrui, 1984, pp 6–7).

While his explanation of the processes used was restricted to the period of the Cultural Revolution, it seems reasonable to assume that, where necessary, similar procedures were used to compile figures for the period of the Great Leap Forward. This may have presented greater problems, however, since the statistics for that period were not so much missing as distorted to an incredible degree. Nevertheless, while no one should accept any single figure in the *Yearbook* as being 100 per cent accurate, each series probably does represent the general level and trend of activity. It is in that sense they have been used in this book: to illustrate marked falls in output, for instance, during the famine.

A final type of statistical information comes from small-scale surveys of particular areas of China. Two which have been particularly useful here are Lavely's fertility survey of a commune in Sichuan (1984), and Yang Quanhe's re-analysis of the fertility survey data for Huaibei Plain (1985). Both are subject to the usual recall limitations but both provide important insight into the effects of the famine on marriage and fertility at the local level.

STUDIES OF CHINA DURING THE FAMINE PERIOD

The second major source of information comprises the detailed studies, in particular of Chinese agriculture and Chinese politics for the period, which have been undertaken by Western scholars using Chinese source materials. In the past two or three years, in

particular, a number of major studies of aspects of China which throw some light on the famine years have appeared, making use of the greatly enhanced volume of material which has become available from Chinese sources since 1976. Among the most notable are MacFarquahar's second volume (1983) in his monumental *Origins of the Cultural Revolution*, which covers the period of the Great Leap Forward 1958–60, and provides essential background for any attempt to understand the events which precipitated the famine. Another invaluable study is Walker's *Food Grain Procurement and Consumption in China* (1984). This unfortunately appeared shortly before the publication of the official time-series on a variety of agricultural topics. An earlier access to these data might have modified some of the arguments presented by Walker, or given another perspective to certain questions. His data, however, especially at the provincial and even lower levels, remain extremely useful, based as they are on statistics released in bits and pieces, and laboriously collated together over several years. I have only modified those calculations of his which I have quoted in the case of *per capita* calculations during the famine period. Walker did not have access to the official population totals and urban/rural populations for 1959–62 and his estimates of total population were a little wide of the mark. Most of the difference is accounted for in the urban population, which he considerably under-estimated, and so his rural *per capita* calculations need little adjustment. Another interesting, though controversial, study of Chinese agriculture is Lardy's *Food Consumption in the People's Republic of China* (1983).

There have only been two short studies, to my knowledge, of the famine itself: the paper by Bernstein (1984) and that by Ashton *et al.* (1984). Bernstein's fascinating discussion of the role of procurements in precipitating the famine is most helpful, and marred only by the assumption, which he shared with Perkins (1969), that the government's ability to collect and dispense grain averted any massive increase in mortality. This, alas, we now know to have been far from the case. Bernstein's belief led him to put, perhaps, too much emphasis on the level of procurements extracted and too little on the necessity of alleviating disaster which the governments faced. The paper by Ashton *et al.* (1984) contains a reasonable outline of many of the factors which precipitated the famine, together with Hill's attempt to provide a demographic analysis of the famine. In order to do this, Hill (n.d.) undertook some highly complex revisions of the data provided by the censuses and the fertility survey and these

revisions led to surprising and, in some respects, rather implausible results. Given the limitations of the demographic data, I believe that it is wiser to use them with minimal adjustment, and to make it clear that estimates produced from them are approximate only.

PERSONAL ACCOUNTS AND ANTHROPOLOGICAL STUDIES

The statistical data can be supplemented to some extent by gathering references to the period from political documents, later and contemporary writings by Chinese, foreign residents and contemporary visitors to China, and from stories or anecdotal evidence provided by the survivors. Again, such remembrances are often suggestive, rather than conclusive. This, too, is not surprising. It is true that famines engrave themselves deeply on people's memories: during the 1979 census in Kenya, census-takers developed a list of major events to pinpoint births and deaths when interviewing non-literate people in a semi-arid area and, of the thirty events known to many people during the last hundred years, fifteen were famines or occurrences directly relating to inadequate food supplies (Carlson, 1982, p. 6). Nevertheless, few people care to recall, let alone describe in writing or speech, periods of intense privation and the lengths to which suffering drove them. One senior and generally outspoken cadre simply told me, 'It was a very painful time' and refused to discuss it further.

Han Suyin was so appalled by the gleeful reaction to the famine which was shown by many foreigners that she refused to write about it for twenty years (Han Suyin, 1980, pp. 318–19). When she did record her experiences of the famine, a consistent thread throughout them is the shame of those who suffered and their proud refusal to admit to suffering.

> How thin were my friends becoming, how thin! And how rude to refer to their loss of weight! One had to say, 'You look very fit.' Though some of them, in the evening, returning from work, staggered with fatigue and empty stomachs, they would reply with a big smile, 'Yes, we are very fit. We have all the food we need.' (Han Suyin, 1980, p. 283)

Even her family in Sichuan would only accept a single huge dinner from her, refusing further offers.

Han Suyin was half-Chinese and had been brought up in China. When the famine came, she was already an annual visitor to the country, and thus well placed to see the subtle changes in her family and friends caused by hunger although, even then, they were not always very apparent. '...He had always been thin; he now had no cheeks, and it was difficult to judge. Only when I saw him again in 1962 did I realise how gaunt he had become in 1960' (Han Suyin, 1980, pp. 280–81).

These subtle changes would not have been apparent to Edgar Snow, whose visit in 1960 was his first return to China since 1945. He had last seen the Chinese at the end of eight years of war with Japan and while the civil war was still raging: it is perhaps not surprising that he under-estimated the extent of the disaster he was now witnessing (Snow, 1966, p. 619). Han Suyin described his bewilderment: 'He could not make up his mind about the shortages. There were shortages, avowedly, yet everywhere he went he also saw enormous progress'. The real gains – in health, in security, in consumer goods, in production, and so on – made it difficult for him to recognise the danger signals. It is also probable that the Chinese did their best to keep them from him for, even to those who knew and admired him, he was an outsider – and an American at a time when America was the symbol of imperialist menace. (Snow's assessment of the food shortage is discussed in Chapter 5.)

Another novelist whose childhood was spent in China wrote of the 'shame' of the famine, too, and had one of her Chinese characters complain that 'news went abroad, to the disgrace of the nation' (Buck, 1984, p. 227). That shame must have been all the greater because it followed the certainty felt by the peasants that, following the Revolution, they had 'stood up' and that now was the time to regain, through food and hospitality, 'a little self-respect' (Fei Xiaotong, 1983, p. 193).

Standing up did not simply mean exchanging one leadership for another; the communists were the symbol of a far deeper change: the final extinction of a system of beliefs which had lasted thousands of years. Nowhere was this of greater significance than in man's relationship with the land. Where the emperors had previously been the mediators between their subjects and the earth, now the revolution told the peasants they needed no intermediaries: the land was theirs and they would make it flourish as never before.

Another of the few contemporary accounts by non-Chinese is *The First Years of Yangyi Commune*, by Isobel and David Crook (1966).

Yangyi in Hebei had been in the heart of the communist resistance area and in 1948 the Crooks had lived in one of its villages for ten months writing their classic *Revolution in a Chinese Village – Ten Mile Inn* (1959). They were thus well-placed to compare conditions in the area in the summers of 1959 and 1960 when they returned. However, the Crooks have lived and taught in China since the war and brought up a family there and, while they described the droughts and floods, they were extremely reticent in commenting upon their effects on the people. Thus their account is more valuable for its descriptions of the Great Leap and of the climatic conditions of 1959 and 1960 than as an indication of any crisis – although it should be said that the droughts and floods in that area occurred only in 1960, and severe shortages would not have become fully apparent until the following year.

A foreigner who attempted to recapture, later on, something of the period was William Hinton, who returned in 1971 to Long Bow village, Shanxi, scene of his earlier great study of the process of revolution, *Fanshen*. On this and subsequent visits he collected material for a further history of the village and a second volume, taking the story to 1971, is entitled *Shenfan* (1983). A very large part of that volume is taken up with the effects of the Cultural Revolution on the village and the province, and there is comparatively little detailed attention given to the 1959–61 famine. Nevertheless, as the quotations I have used illustrate, what there is, is illuminating.

DATA LIMITATIONS

From what has been said, it may already be clear that the data are more comprehensive for some aspects of the famine than for others. Migration data even within China tend to be extremely poor, and any which exist for this period do not appear to have been published. All the indications are that this is a serious gap in our knowledge about people's reactions to the famine. Lack of information in this field is closely linked with a further data limitation: the paucity of regional, provincial or county-level material on the famine, despite very clear evidence of variations in its effects across different geographical or crop-producing areas.

To some extent this limitation will be rectified by the publication, in due course, of provincial statistics from the 1982 census and the planned series of reports on the provincial populations of China; even

more useful would be the publication of provincial statistics from the 1964 census although this is not, so far as I am aware, planned. Much further light could be shed on the famine if the time-series of statistics prepared for the 1983 *Yearbook* were to be disaggregated and published for each province, Again, I am not aware of plans to do this.

Finally, much more remains to be discovered about the epidemiology of the famine. In general, it can be said that very few people die of direct starvation during a famine: deaths are more usually the outcome of increased vulnerability, caused by malnutrition, to infections and other diseases. Given the remarkably successful, if rudimentary, health care developed by the Chinese during the 1950s, it would be interesting to know which diseases flourished in the conditions of this particular famine, and how the health networks attempted to combat them.

If these and other questions like them remain to be answered, the desire to get answers is not merely the result of idle curiosity. Famine, not only in China but across the world, has remained until recently a neglected subject of study. The assumption, explicit or not, was that famine was a situation which the world had learned how to deal with, and which would no longer recur on any significant scale. Unfortunately the events of the past decade, in the Sahel, Ethiopia, and Bangladesh as well as in China, have made it necessary to revise this assumption. They have also made it apparent, as the next chapter describes, that efforts to avert famine or to contain it and minimise mortality from it can only be of limited success until there is a better understanding of the causes of famine and of how people react to its existence. Thus any study of famine is an attempt to provide not simply a contribution to the history of a country, but a contribution to our knowledge of the management of these sad and terrible crises.

2 Famine Theory and Famine Experience

The term 'famine' has been used to cover a variety of situations and has involved a range of definitions though, in the past, their scope tended to be somewhat limited. 'A state of extreme hunger suffered by the population of a region as a result of the failure of the accustomed food supply' is, as Bhatia pointed out (1967, p. 1) a definition only applicable in the most primitive economic conditions. Modern famines, he argued, usually took place even when food was available but where its price became too high for many of the people. Alamgir has more recently expanded on this theme, and divided famines into three types: *general* affecting an entire country or at least a very widespread area; *regional or local* famine confined to a particular locality within a country; and *class* famines where excess deaths were largely or completely confined to various subgroups within the population. He suggested that (despite exceptions) historically, famine has moved from being general, to being local or regional, and now to being class-based (Alamgir, 1980).

Alamgir also argued that malnutrition was not a sufficiently exact measure in identifying famine. He concluded that a comprehensive definition would clearly distinguish excess mortality as the crucial distinction between famine and other communal crises involving shortages of food and malnutrition. He also concluded that such a definition should identify the prior indicators of famine, and indicate the immediate stages of a set of famine substates that ultimately lead to excess mortality.

This suggests that famine is now seen as a more complex condition, and one with more complex causality, than simply the outcome of a natural disaster. It is a situation requiring explanation; requiring the identification of indicators of its progress; and requiring recognition of its demographic effects. In the past few years there have been several studies of famine which have addressed themselves to one or more of these issues.

The most important attempt to develop a theoretical framework for the analysis of famine was that undertaken by Sen (1981) Like Bhatia, he criticised the assertion that famine results from a decline in food availability on the grounds that famines frequently take place

without any over-all major decline in food availability – an example being the Ethiopian famine of 1974 – and that even where there are major declines in availability the causal mechanisms of starvation include many other variables. A more useful general framework, he suggested, involves the concept of food entitlements: the means by which individuals and families gain access to goods that provide for adequate diet, or the relationship of people to food sources. Some of the relationships are simple ones, such as the peasant's entitlement to what he grows: *direct entitlement*. Others are more complex *trade entitlements*, such as the nomad's entitlement to grain through the exchange of animals. Some involve *markets*, with the individual exchanging his craft for the means to acquire food; others, *public policies* such as employment benefits or public relief (Sen, 1981, p. 159). A further group of entitlements is suggested by Bongaarts and Cain (1982, p. 54): *dependent entitlement*, important in societies such as Bangladesh, for example, where women are excluded from many agricultural activities and denied access to important forms of wage employment. They are thus placed in a position of economic dependence on men and food entitlement is frequently established through men, whether a father, husband, or son. Which male relation the woman had to depend on depends in turn on the point in her life-cycle at which the crisis takes place: whether she is an unmarried daughter, a wife, or a widowed mother. The authors point out that young children in all societies can be viewed as having this kind of entitlement; the significance of such a category for women is that it varies from society to society and is therefore analytically important in the study of special risks women may face.

Both the basis of their food entitlement and the probability of events or circumstances which threaten that entitlement are factors which affect individuals and families. The crop failure of a single farmer will affect his direct entitlement and the dependent entitlement of his family. A more widespread drought or flood may cause more widespread failure of direct and trade entitlements, for trade entitlement becomes vulnerable to depressed labour demand, under- or unemployment, and a reduction in purchasing power. Price inflation irrespective of natural disaster tends to affect those involved in trade entitlement more than those with direct entitlement; a spouse's unemployment or death, or a divorce, may affect dependent entitlement.

The entitlement approach 'views famines as economic disasters, not just as food crises' (Sen, 1981, p. 162) and the contrast between

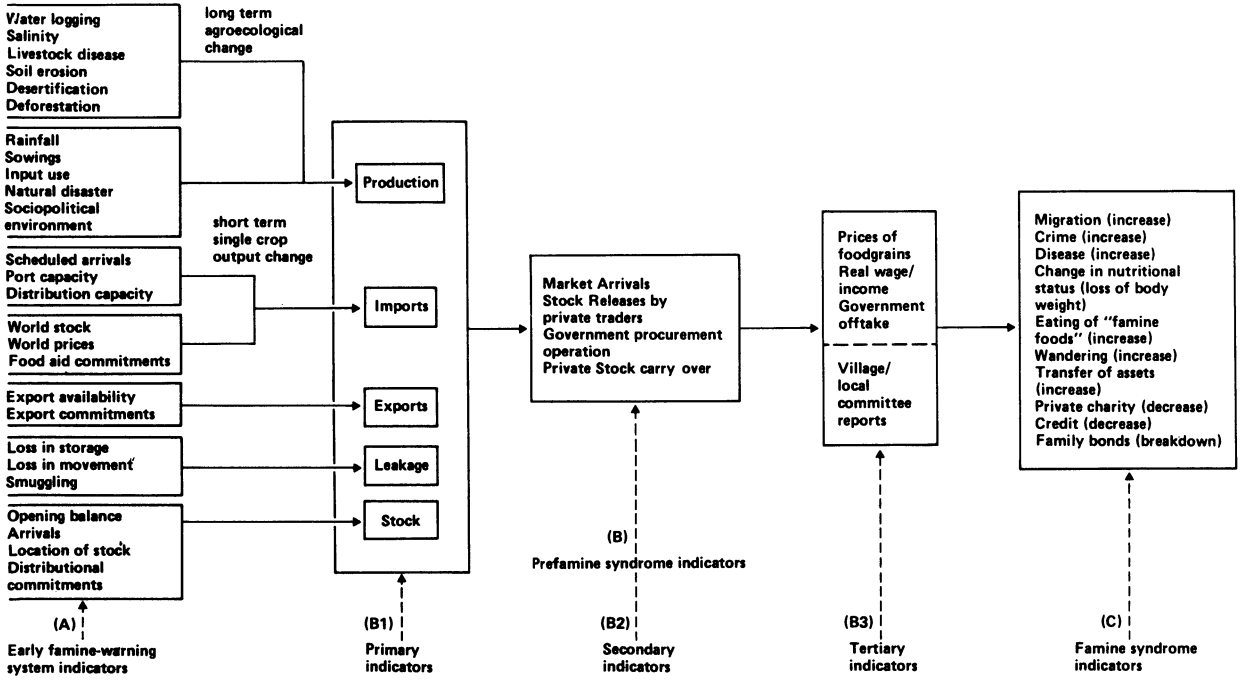
different types of entitlement failure in different famines becomes important in understanding the precise causation of famine and in devising policies for their anticipation, relief and prevention. Unfortunately, Sen made no attempt to examine how the entitlement approach might work in a centrally planned economy, other than noting that 'in a fully directed economy, each person may simply get a particular commodity bundle which is assigned to him' (ibid., p. 45) and this significant area of the framework remains to be explored.

A second major contribution to the understanding of famine was made by Alamgir (1980) whose concern was largely with the causality of famines and with the identification of 'famine indicators' which would provide a forewarning system to enable national or international intervention at an early state (Alamgir, 1980, pp. 393–404). The indicators identified were classified into groups to reflect the stage of the impending crisis (see Fig. 2.1).

The first group, of early famine-warning system indicators, is clustered by the way in which the indicators reflect changes in areas such as production, imports, exports, leakage or stock. Warning signals from this group enable national or international agencies to take preventive action to avert an impending food crisis. The second group contains primary, secondary and tertiary pre-famine syndrome indicators which make it possible to monitor the success of interventions already undertaken and to initiate, if necessary, both preventive and relief measures. The final group, famine syndrome indicators, signal that a crisis is occurring and that urgent relief is required to save lives.

It is possible that the indicators listed could be extended and refined to provide a more sensitive warning system, but the model does represent an important attempt to systematise what is known about the development of famine. Any limitations of the model are less likely to reduce its usefulness than is the reluctance of governments to make use of it. One of the more unfortunate aspects of famine is that it frequently occurs during a period of – and in part results from – internal or international political crisis. During such a period governments have tended to view the admission of famine as an admission of vulnerability or even failure. In each of the major famines of the past forty years – Bengal 1943; China 1959–61; Ethiopia 1974; Bangladesh 1974; and the current one in Ethiopia – political tensions and constraints have led to government efforts to deny a crisis even after it has become a fully-fledged disaster.

A third category of famine model, showing the demographic



Source: Alamgir, 1980

Figure 2.1 Sequential Famine Indicators

responses which could be expected during and immediately after a moderately severe famine of approximately six months' duration and with a well-defined beginning and end, in a country with high fertility and rapid growth, was designed by Bongaarts and Cain (1982, pp. 44–59). It showed a rise in mortality as the most immediate and visible demographic consequence of famine, with the over-all pattern of the death rate divided into three phases. During the famine itself the death rate rises increasingly rapidly; mortality peaks at the end of the famine. It declines only gradually thereafter to the pre-famine level, as the weakened physiological condition of those involved allows disease to take a further toll. Finally, a year or more after the famine, the death rate may fall significantly below the pre-famine level and remain there for several years because the least vulnerable subgroups of the population have the highest chances of having survived the famine and continuing to survive afterwards. Famine mortality has generally most impact on the poorest groups in the population, including the landless. Infants who are breastfed have some protection from famine, but as birthweights decline, diseases spread and malnutrition becomes widespread, infant mortality increases. At ages above one year, especially in the age group one to three years, children are especially vulnerable. Mortality is also high among the aged and among pregnant and breastfeeding mothers.

During a short famine fertility remains virtually stable, although the birthweight of newborns declines and the number of stillbirths rises. Nine months after the famine, however, the birthrate declines and the extent of the decline is directly proportional to the famine's severity. Factors contributing to the decline include a decrease in fecundity, a decline in male potency (Aykroyd, 1974, p. 18), lower frequency of intercourse, an increase in voluntary birth control and the postponement of new marriages. Following the famine, the conception rate recovers quickly and birth rates may exceed the pre-famine level for up to three years.

The migration response to famine is much less predictable and is dependent on particular circumstances: there is generally outmigration from the stricken area during the famine and a return after it. However, if large geographic areas are affected and few relief centres are within reach of the starving population, migration may be quite small. The extent of return migration following the famine depends upon the prospects for a return of normal conditions.

The authors point out that the demographic responses to famine have little effect on the long-term over-all size of the affected

population: fluctuations in the birth rate are smaller than those in the death rate and high fertility following the famine usually compensates for the earlier deficit; deaths may reduce the total population size for a short time but in high-growth countries such as Bangladesh where the 1974 famine may have resulted in 2 per cent of the population dying, the 3 per cent annual growth rate restores the population size in less than a year. This high rate of growth, they suggest, may be perpetuated by famine itself – a high-risk environment inducing a response of high fertility or a disincentive to limit natural fertility, reflecting the utility of children as a form of insurance.

The Bongaarts and Cain model has been elaborated by Hugo (1984, pp. 7–31) to provide a typology of community and individual reponses to famine, emphasising in particular demographic responses. It distinguishes between long-term and short-term adjust-

SHORT TERM ADJUSTMENTS

	In Situ Adjustments				Ex Situ Adjustments	
Dietary	Increased Mortality	Reduced Fertility	Employment	Outside Assistance	Temporary Movement	Permanent Movement
Lack of food Less nutritious food Different types of food Kill wild animals or domestic animals Malnutrition Weight loss Organized fasting within households	Infanticide Greater incidenee of infectious disease Malnutrition Excess deaths among vulnerable groups (aged, infants etc.) Socio-economic and spatial differentials	Abortion Abstinence Delayed marriage Increased divorce Prolonged lactation Reduced fecundity Lowered frequency of intercourse	Seek off farm work Farm and graze new areas	Remittances from Family living elsewhere Government and international aid	Nomadic herding Commuting Seasonal migration Contract migration Rural-urban movement	Emigration Rural-urban migration Settlement in new agricultural area

LONG TERM ADJUSTMENTS

	In Situ Adjustments				Ex Situ Adjustments	
Dietary	Increased Mortality	Fertility	Employment	Outside Assistance	Temporary Movement	Permanent Movement
Lack of food Less nutritious food Different types of food Smaller stature	Infanticide Greater incidence of infectious disease Malnutrition Excess deaths among vulnerable groups (aged, infants etc.) Socio-economic and spatial differentials	Increased due to "insure" against crisis Mortality reduced due to lower fecundity	Seek off farm work Farm and graze new areas	Remittances from family living elsewhere Government and international aid	Establish regular seasonal migration pattern Establish regular cyclic migration pattern	Emigration Rural- urban migration Settlement in new agricultural areas

Source: Hugo, 1984

Figure 2.2 Typology of Community and Individual Responses to Famine

ments and also between those which occur within the famine area and those which involved individuals and groups leaving the famine-affected area. Hugo argues that in recent famines in Third World countries there is evidence that permanent and temporary migration movements have been the most widespread and significant of contemporary adjustments to famine. The distinction between permanent and temporary, in this context, may be difficult, as much of the migration initially seen as a short-term response ends as permanent population redistribution. This is an area which has received even less attention than most other aspects of famine demography. The importance of further research into the demography of famine is highlighted in Hugo's review, not only to assist in the planning and implementation of disaster intervention programmes and policies, but also 'from the perspective of deepening our understanding of the basic demographic processes so that we can move towards more comprehensive theoretical formulations relating to changes in mortality, fertility and population movement'.

An examination of the demographic responses to famine may produce insights into the nature of demographic behaviour in general. If it can be shown that demographic responses to famine reflect, in an extreme form, the 'normal' behaviour of a population – for example, a lack of priority given to women, children or the old – this may help in the understanding of demographic behaviour and demographic change. In addition, a population which lives with the recurrent threat of famine may develop long-term demographic mechanisms for minimising its impact, as Bongaarts and Cain suggest.

These theoretical and conceptual contributions to the understanding of famine are buttressed, to some extent, by studies of specific famines which have occurred during the past forty years. Sen developed his theory of exchange entitlements through the study of the Bengal famine of 1943–44. Another examination of the same famine, by Greenough (1982), places it in a broader cultural and anthropological framework but, at the same time, his analysis of the causes of the famine is entirely compatible with Sen's approach. A gradual decline in the *per capita* availability of rice, and a steady increase in the numbers of landless and wage-labourers whose low incomes made them reliant on the charity of those for whom they worked, altered the balance of exchange entitlements. An inefficient grain-marketing system, the disruptions of war, local natural

disasters, political struggle and clumsy market interventions, all contributed to a decline in entitlement amongst large sectors of the population. 'Resource controlling males – landlords, cultivators, heads of households – declared their inability to feed all those who habitually depended upon them for food and for protection' (Greenough, 1982, p. 138).

The Bangladesh famine of 1974 was the main focus of Alamgir's famine study and here, too, a drastic decline in real incomes (exchange entitlements) of a large proportion of the population was seen as a major explanation for the collapse of a low-level equilibrium (Alamgir 1980, Chapter 3). However, Alamgir argued that the famine was not simply a matter of a decline in exchange entitlements: locational and seasonal shortfalls in foodgrain availability also made their contribution. In the context of the Bengal famine of 1943–44, both Sen and Greenough deny the relevance of grain shortfalls, though Bhatia (1967, p. 321) believed it was a contributory cause of disaster.

As yet, the only attempt to examine famines so as to develop a causal framework has been that of Alamgir. He considered both the Bengal and Bangladesh famines in creating his model and thus covers the sequence of events in both crises. Some of his indicators can be compared against an unusual study, of a population on the edge of famine, which was undertaken by Caldwell, Reddy and Caldwell (1984). Nine villages in an area of Karnataka plagued by recurrent drought were studied in 1983, when a drought was in fact in existence and crop failure had resulted. There had not been excess mortality but the peasants were not to know if it might occur; they could not tell whether the drought would continue into another year. Short-term strategies were therefore based partially on hope and partially on fear. They included reducing food consumption (especially to the women, children and old); delaying marriages and avoiding childbirths; selling cattle and incurring debts. Interestingly, at this stage, there was very little migration or selling of jewellery and other valuables. By contrast, in Bengal in 1943, the sale of jewellery was among the first signs of economic distress; as the crisis continued it was followed by the sales of household chattels, such as brass pots, and finally by the sales of tools and implements by artisans. Sales of cattle, and then land, were only undertaken as conditions became desperate (Greenough, 1982, p. 196). It may be that in the light of further evidence, Alamgir's category of 'famine syndrome indicators'

will need to be modified, with 'transfer of assets' moving to the group of tertiary pre-famine indicators, along with additional indicators such as an increase in credit demands.

Support for the hypothesis put foward by Bongaarts and Cain, that a famine-prone environment encourages high fertility, is also provided by the Karnataka study. The authors argue that in this vulnerable community long-term strategies had been based above all on peasant perception of the instability of rural incomes. Thus wherever possible they had tried to educate at least some family members and prepare sons for off-farm jobs, preferably in an urban area, so that during times of crisis they could contribute a cash income. Daughters where possible were married to urban job-holders in preference even to substantial farmers. The authors suggest that these long-term risk avoidance strategies militate against any reduction in family size as the families need sufficient children for a spread of insurance measures.

The number of studies assessing the demographic responses to famine is also rather limited. In the development of their model, Bongaarts and Cain drew heavily on the data from the area around Matlab *thana* collected by the Cholera Research Laboratory, (now the International Centre for Diarrhoeal Disease Research). More recently, Hugo too made extensive use of the registration data from Matlab, pointing out that the demographic surveillance system in existence there from the mid-1960s and covering, by the time of the famine, some 268 000 people, is a 'notable exception to . . . the dearth of demographic data in famine prone areas' (Hugo, 1984, p. 14). In particular, it has permitted detailed examination of one area of Bangladesh afflicted by the famine of 1974.

During the famine, infant mortality rates and those for children under the age of ten rose dramatically as did the death rates of adults over the age of 45. Women in the childbearing years (who in Bangladesh normally have higher death rates than men of similar ages) continued to have higher mortality, and higher sex differentials in mortality were accentuated among girls aged one to nine (Chen and Chowdhury, 1977). The crude birth rate maintained its level throughout 1974, dropped in the first quarter of 1975 and reached its lowest recorded level – 21.9 per thousand – in the second quarter of that year. It did not recover until 1976 (Ruzicka and Chowhury, 1979).

Infant mortality during the famine period in Matlab revealed clear differences by socio-economic status, with the poorer groups

substantially more affected: during normal periods such differentials have not been very apparent. Again, the sex differential in infant deaths was reversed, with higher female mortality during the famine. Over-all mortality rates were three times higher amongst the poorest groups in the population than among the richest. Marriages continued to take place amongst the wealthiest group, whose fertility rates fell only half as much as did those among the poor. During 1974–75 migration from the Matlab area increased considerably among males in the lower socio-economic group; it was however largely temporary and the men returned once the famine was over. Men from the higher socio-economic groups remained in their villages during the famine, but had higher migration rates in the two years after it, possibly because their experience of the famine 'encouraged them to look for stable urban jobs' (Razzaque, 1985).

Alamgir also looked at demographic effects of the 1974 Bangladesh famine, using a survey of eight villages and eight *langarkhanas* (food distribution centres), carried out in November of that year. Crude death rates for the quarter August–October were 122.8 per thousand for *langarkhana* inmates, and 60.4 and 37.6 for famine-affected and non-affected villages, respectively, compared with an estimated normal rate of 19.4. As a result the total excess deaths due to famine were estimated as some 1.5 million excluding urban deaths outside the *langarkhanas*, the famine being 'essentially a rural phenomenon' (Alamgir, 1980, p. 143). Adult–child differentials in death rates became much sharper during the famine than in normal years, and more so in the famine areas. Unfortunately the data do not permit over-all age–sex patterns of mortality to be established, and the question of adult male mortality relative to female remains unclear: the female death rate in both famine and non-famine villages exceeded that of men but the reverse was true in the *langarkhanas*.

The death rate in the Irish famine of 1845–49 also seems to have been higher for the very young and the old. A recent examination of the statistical evidence (Boyle and O'Grada, 1982) indicates that there were about a million excess deaths in a population of some 8.5 million, with more males dying than females (though the differential was relatively small) and the 0–4 age group being most depleted, followed by the 60 and over age group.

Demographic behaviour in the 1943 Bengal famine remains more obscure. One of the members of the Inquiry Commission into the famine, appointed in July 1944 to report on its causes, was W. R. Aykroyd, then Director of the Nutritional Research Laboratories in

Coonor, south India. Among his tasks was that of making an estimate of famine mortality, and he later described the difficulties of estimating likely additions to recorded deaths (Aykroyd, 1974, p. 77). His estimate, of a million excess deaths in 1943 and a further half million in 1944, was, he later realised, too low: 'We were not as aware then as we are now that a large part of famine mortality occurs in infants and young children, and deaths in those age groups are likely to go unrecorded in a disrupted population.' Nevertheless, he believed that his under-estimate had been less gross than it was later claimed to be. One reason for the discrepancy between his and later calculations is that his were carried out in 1944. Identifying the duration of the famine has presented problems; both Sen and Greenough argue that while the food situation had recovered after 1944, mortality levels did not recover until at least 1947 and perhaps as late as 1951 because of famine-related epidemics; thus conventional estimates of excess mortality of 1.5 million should be increased to at least 3 million and probably even more (Sen, 1981, p. 195–216 and Greenough, 1982, p. 299–315).

According to Sen, excluding a catch-all category of deaths due to 'fever', the main causes of excess mortality were (in decreasing order) malaria, cholera, 'dysentry, diarrhoea and enteric group of fevers' and smallpox. Starvation did not appear as a major cause of death during the famine, partly because starvation was not typically used as a separate category in reporting deaths, and because the proximate causes of death, such as diarrhoea, tended to fit well into the traditional categories. The epidemics tended to result not only from malnutrition but, for example, from the impact of famine on sanitary arrangements, water supply and other civic amenities, increased exposure to vectors of disease through movements in search of food, as well as inability to receive medical attention owing to destitution and a breakdown of public health facilities. Apart from tuberculosis, for which there was no evidence of a higher incidence of mortality, the major killers were those which in normal times were already prevalent. The share contributed by each of the major causes of death to the total increase was malaria 36.7 per cent; cholera 7.1 per cent; dysentery 5 per cent; and the 'other fevers' 27.4 per cent.

In absolute terms, agricultural labourers suffered most severely from famine mortality. The relative incidence of death was also high among other groups such as fishermen, transport workers and non-agricultural labourers in rural areas. Most of those in Calcutta who died of starvation were destitutes who had migrated into the city;

existing town dwellers were protected by food distribution schemes. However, after 1943, the townspeople suffered severely from epidemics induced by the famine, perhaps because the greater crowding in cities facilitated the spread of diseases.

Contrary to what is often claimed, Sen found that in Bengal the sex ratios of mortality before and during the famine (up to 1946) remained very similar although at the height of the famine in 1943 there was a slight excess of male deaths. Although child mortality during the famine was very high, the proportion of child deaths among all excess deaths was similar to that in the pre-famine period. The famine proportions of deaths of the old were also similar to the proportions in normal times. The seasonal incidence of mortality by month also reflected the normal pattern though at higher levels. 'The famine seems to have worked by magnifying the forces of mortality each month, heightening the peak mortality relatively more.... Gigantic as the famine was, it killed mostly by adding fuel to the fire of disease and mortality already present in the region' (ibid., pp. 215–16).

This view is challenged by Greenough, who claims that 'the distribution of mortality in the famine year showed a pattern distinct from the ordinary distribution, and one may conclude that famine mortality was not simply an exaggeration or deepening of pre-famine trends' (Greenough, 1982, p. 313). Using unpublished data from a sample survey undertaken by the Indian Statistical Institute, he conluded that, while mortality rose in 1943 in all age and sex categories, it was very unevenly distributed among those categories, with no simple pattern to the increases. Females experienced smaller increases, on the whole, in nearly every category. The most famine-affected category comprised males 50 years and older; the least affected category for both sexes was the age group 20–30 years. Women in the childbearing ages reaped a real advantage from the famine: their chances of survival rose as the birth rate fell.

Greenough questions the usefulness of famine relief programmes concentrating on infants and women in the childbearing ages, partly on the basis of his findings of their relative lower risk, and partly because in certain cultural contexts it is almost impossible to divert food from adult males. 'Under the stresses of the famine the powerful ideal of a co-resident, sharing family gave way to the even more powerful ideal of family continuity, which is held to depend ultimately upon adult males' (Greenough, 1982, p. 224). Another aspect of this behavioural pattern was the very high incidence of

broken families during the famine: children deserted by their parents, wives deserted by husbands, and wives thrown out of the family home. Such family breakdown accounted for much of the migration which took place during the famine, both in the form of 'wandering' in search of food, and a more determined effort to reach an urban area, especially Calcutta, where food supplies were better.

The Russian famine of 1921–22, in which it is estimated that up to 3 million people perished, was centred in the Volga grain-producing area. Granaries, and farming, were depleted by the 1914–18 war, and by the further disintegration caused by the Revolution, so that nearly half the arable land in Russia went out of cultivation. Blockade, and a refusal of trade credits abroad, compounded the problem. Partial failure of the rains in 1920 and drought in 1921 led to a situation where, by 1922, a million square miles and some 30 million people were affected. (Aykroyd, 1974, p. 91). The average height of schoolchildren in Petrograd was lower in 1920–21 than in previous years, and the effect was most marked in the 9–11 age group (Sorokin, 1975, pp. 48–9). Weight losses were also common, but not invariable, because oedema was often present. Among children, the 'neurosis of exhaustion' consisted of depression, an inclination to tears, and overwhelming irritability; in adults, anger and irritability were common (ibid., p. 64). Both intellectual output and productivity of labour decreased. Few could talk or think of anything except food 'irrespective of where you went and regardless of the initial topic of conversation, the talk turned eventually to the problem of food, ration cards, black markets, the costs of edibles, and the ways of procuring them' (ibid., p. 75). A comparison of workers' household budgets in Moscow before the First World War and in 1918, when food supplies were extremely scarce, shows not only the remarkable shift in the percentage of expenditure on food, at the expense of almost every other category of activity, but that remittances to the home village virtually ceased (ibid., pp. 98–9) – see Table 2.1.

Hunger in Petrograd overcame fears of death; thefts of vegetables from communal gardens became 'quite prevalent' despite official threats that offenders would be shot, and the townspeople travelled to adjacent provinces to exchange any remaining possessions for food, even at the risk of contracting typhus or being shot by the special guards (ibid., p. 103). Prostitution became common; and cannibalism was not unknown. Children were suffocated by demented mothers, or abandoned or sold. The number of those at risk of pregnancy was reduced by a marked increase in the numbers

Table 2.1 Household Expenditure by Moscow Workers, pre-war and 1918

Category	*Expenditure* (percentage)	
	Pre-war	1918
Food	37.3	75.7
Housing and household expenses	12.0	3.8
Clothing	12.8	7.8
Hygiene	4.2	3.0
Cultural requirements	2.6	2.2
Remittances to home village	27.6	2.2
Other	6.3	5.3

SOURCE: Sorokin, 1975.

suffering from amenorrhoea, caused by lack of food and hard physical labour; other ways of avoiding pregnancy included the postponement or refusal of marriage, and 'unnatural satisfaction of the sexual appetite in order to avoid pregnancy' (ibid., pp. 111–28). Sorokin's account is interesting in the context of the Chinese famine, as he provides a rare picture of the impact of famine during the early years of another socialist country.

Famine was among the hardships suffered by the population of Leningrad during the siege from 1941 to 1943, and an account of its effects on children born during 1942 was given by Antonov (1947, pp. 250–9). Rations of bread for manual workers varied between 500 grams a day in September 1941 and February 1942, down to 250–350 grams in November and December 1941. For non-manual workers, the ration fell as low as 125–200 grams in November and December 1941, and only reached 400 grams in February 1942. Premature births in the first half of 1942 accounted for 41.2 per cent of all births; in the second half of the year the proportion was more or less normal, at 6.5 per cent; stillbirths were 5.6 per cent in the first half of the year, compared to 2.5 per cent in the second. An even higher proportion of those born alive suffered from low birth weight: 49 per cent weighed less than 2500 grams and almost 21 per cent weighed less than 2000 grams. 'The most noticeable characteristic of the newborn children in the first half of 1942 was their low vitality. Most of them were inert from the time of birth; they did not maintain their temperature satisfactorily and became chilled easily; their sucking at the breast was weak; they had little resistance to all outside harmful influences (ibid., p. 254). As a result, infant mortality was 33.5 for each hundred

children born during the first half of the year and 27.1 per cent for those born in the second half. In some ways the high mortality among the second group is the more striking; as we have seen, these babies were much less likely to be premature, or of low birth weight, or both. What is more, they were born to an exceptional group of women. In the first half of 1942, 414 women gave birth in the clinic, but in the second half of the year, only 79. Those 79 seem to have become pregnant at a time amenorrhoea was widespread because they either had jobs, or sometimes husbands, with unusually good access to food. Unfortunately the data 'collected by people who lived under great difficulties' (ibid., p. 250) are not sufficient to clarify this mortality, which may have been due to breastfeeding inadequacy and early weaning at a time of poor food and rampant disease. Antonov merely notes that in the first half of the year, mothers had very little breastmilk and that, combined with the children's lowered ability to suck, meant that many had to be fed on substitutes even in the first few days (ibid., p. 253).

Another famine of the 1939–45 war occurred in the cities of Holland: the 'Hongerwinter' of November 1944 to April 1945 (Stein and Susser, 1977, pp. 123–45). There were declines in conception throughout the famine, but the greatest reduction occurred nine months after the onset of acute hunger. Fertility returned to normal immediately the famine was relieved. A detailed comparison of rations and births, by month, indicates that the relationship only became strong when the ration fell below 1500 calories. Women who conceived during the period of greatest hunger tended to be slightly younger than during the rest of the period, and first births were more common. The population suffered lassitude and diminished libido, and amenorrhoea was widespread. Whether there was a relationship between malnutrition and lactation and prolonged infecundity was not apparent from the Dutch data. Studies carried out during the Bangladesh famine, however, suggest that 'breastfeeding is the major factor affecting amenorrhoea, not malnutrition' (Hoffman, 1985, p. 166).

From this discussion of contemporary famine theory, and of studies of individual famines, it is apparent that there is still much to be learned about famine. At the same time, however, it is apparent that the studies of individual famines, in particular, provide clues about how people behave which may help to explain behaviour in other famines, or fit with other fragmentary evidence.

In studying the Chinese famine, the literature suggests a number of questions to be asked:

- Can it be described as general, local or class-based?
- How far was it a failure of exchange entitlements, and to what extent might such a failure have been modified by the existence of a centrally-controlled economy?
- Can the existence of famine indicators be identified?
- Does the pattern of demographic behaviour fit the model developed by Bongaarts and Cain?
- Were the Chinese responses to the famine those indicated by Hugo?
- Does the evidence throw any light on the still debated issues of exactly how and why fertility declines during a famine?

It is with these questions that the rest of this book will be largely concerned.

3 Famine in Chinese History

THE EXTENT OF THE PROBLEM

Some light may be shed on the Chinese famine of 1959–61 by study of earlier Chinese famines. Glimpses of peasant behaviour and of peasant expectations, whether from the government or other sources, may help in the understanding of the mechanisms which were developed over thousands of years to meet the crises of famine, and which are not likely to have been fundamentally changed by ten years of revolution. In addition, an appreciation of the traditional administrative reaction to famine, and the strategies and limitations of famine relief, may assist in clarifying the reactions of the new Chinese government.

Recurrent famine has been a feature of the Chinese scene as far back as records exist. In roughly 53 per cent of China's counties, adults interviewed in the early 1930s had experienced three or more famines (Stavis, 1982, p. 113). To foreigners, indeed, famine was one of the chief features of China, and their view of its centrality was summed up in the title of Mallory's classic: *China – Land of Famine* (1926).

Two hundred years earlier a European essayist on the subject of economics and population, Richard Cantillon, had already noted that the Chinese paid 'great attention to agriculture' and were thrifty and hard-working.

> Their number is incredible if the Relation of Voyages is to be depended upon, yet they are forced to destroy many of their Children in the Cradle when they apprehend themselves not to be able to bring them up, keeping only the number they are able to support . . . when bad years come, they starve in thousands in spite of the care of the Emperor who stores Rice for such contingencies. . . . (Cantillon, 1755, p. 726).

Between the years 108 BC and AD 1911 there are known to have been 1828 famines, or one nearly every year in some one of the provinces (Mallory, 1926, pp. 1–2). The major natural causes were either flood or drought, with drought being the more common. A

compilation of drought records between AD 620 and 1643 was undertaken by Alexander Hosie of the British Consular Service in 1878; in the thousand years between 620 and 1619, drought was recorded in one or more provinces for 610 years, and great or very severe drought was specified for 203 years. Allusions to cannibalism in at least 15 of the worst years indicate very severe famines; these usually occurred when the drought lasted for a prolonged period or when the area affected was large. That part of China north of the Chang Jiang (Yangtze) valley and extending as far as Mongolia was the most frequently affected. Another compilation, undertaken by Dr Chu Co-ching in 1926, covered the period AD 1 to the end of the nineteenth century. While the two sets of records are not entirely comparable, they tell a similar story. The more populous provinces, where mass famine occurred more quickly and noticeably, are probably over-represented in the records, as are the provinces nearer to the capital, while in some cases local officials may have over-stated the extent of the disaster in order to claim remission of taxes. Nevertheless, it is clear that drought was a frequent occurrence and that it often led to famine (Mallory, 1926, pp. 1–2 and 38–42).

Whether agriculture deteriorated and famine became more common during the latter part of the nineteenth century and the early part of this century remains an open question. Many writers have pointed to the comparatively high rate of population growth during the eighteenth century as a cause of extreme pressure on an already highly intensive agriculture, – the numbers of people grew from 143 million in 1741 to 432 million in 1851 – together with such things as rebellions, wars, lack of agricultural innovation and disproportionate semi-colonial industrialisation, and have assumed an increase in famine. Mallory (1962) is a typical example of this school, as is Tawney (1932). More recently, scholars (notably Myers, 1970) have challenged this view and have argued that in fact Chinese agriculture adapted reasonably well and did manage to keep pace, more or less, with the extra mouths. That it did so appears to be due to changes in the pattern of cropping, and the introduction of new crops (Lardy, 1983, pp. 7–10).

This dispute is fortunately beyond the scope of the current book. Both schools of thought are agreed on the question that *does* concern us: that the majority of peasants lived at a marginal level, and that villages suffered more from some major disaster, natural or man-made, than from any other combination of economic factors (Myers, 1970, p. 124). All are agreed, too, that the situation

deteriorated during the 1940s, as a result of the Japanese war and the civil war. It was estimated that in 1944, almost 11 million people (some 5 per cent of the population) from outside the major cities in the seventeen provinces held in part or entirely by the Japanese, had fled their homes (Chen Da, 1946, p. 61). Many were the able-bodied young, afraid of conscription into the Nationalist army, or compulsory labour for the Japanese. Those who remained behind saw their crops taken or their land destroyed in the fighting, as the result of decisions like the one to blow up the Huang He (Yellow River) dykes and flood the north China plain to delay the Japanese advance. Galloping inflation led the Chinese government to demand, in 1942, that the peasants pay their taxes in grain and, later, to introduce fixed prices for the grain it bought, well below the market rate. In many areas, the end of the war brought no improvement. Landlords returned to their villages; the civil war continued; inflation spiralled to the point where the Chinese dollar, officially pegged in the early years of the war at around twenty to one American dollar, was worthless. These, and related factors, extended the numbers of those at the most marginal level of existence.

The situation of the peasants, and their vulnerability, has been superbly described by Tawney:

> Famine is a matter of degree; its ravages are grave long before its symptoms became sufficiently shocking to arouse general consternation. If the meaning of the word is shortage of food on a sufficient scale to cause widespread starvation, then there are parts of the country from which famine is rarely absent ... There are districts in which the position of the rural population is that of a man standing permanently up to his neck in water, so that even a ripple is sufficient to drown him. The loss of life caused by major disasters is less significant than the light which they throw on conditions prevailing even in normal times over considerable regions ... Famine, in short, is the last stage of a disease which, though not always conspicuous, is always present. (1932, p. 77)

Malthus, nearly a century and a half before, had made a similar point when using China as an important example in his development of a theory of population. There must have been periods, he noted when the population

> increased permanently without an increase in the means of subsistence ... if the accounts we have of it are to be trusted, the

> lower classes of the people are in the habit of living almost upon the smallest possible quantity of food ... A nation in this state must necessarily be subject fo famine. Where a country is so populous in proportion to the means of subsistence that the average produce of it is but barely sufficient to support the lives of the inhabitants, any deficiency from the badness of seasons must be fatal. (Malthus, 1798, p. 115)

Famine was so much of a threat to the well-being of the Chinese people that it played an important part in belief and ritual. Ancestor worship in which the kings sacrificed to their predecessors is known to have existed at the time of the Shang dynasty, over a thousand years before Christ. Famine, defeat in battle, sickness and death were the penalties the ancestors visited on descendants who did not make the necessary sacrifices, or otherwise displeased them (Baker, 1979, p. 72).

As time went on, belief in the supernatural basis of famine became less universal, with the intellectuals of the time of Confucius being 'not unaware of the value of religion in social control, while placing themselves above it' in a way neatly expressed by one philosopher, Hsun Tzu (fl. 298–38 BC):

> If people pray for rain, and it rains, how is that? I would say: Nothing in particular. Just as when people do not pray for rain, it also rains. When people try to save the sun or moon from being swallowed up, or when they pray for rain in a drought, or when they decide an important affair only after divination – this is not because they think in this way they will get what they seek, but only to add a touch of ritual to it. Hence the gentleman takes it as a matter of ritual, whereas the common man thinks it is supernatural. He who takes it as a matter of ritual will suffer no harm; he who thinks it is supernatural will suffer harm. (Baker, 1979, p. 105)

The Emperor, as the intercessor between his people and Heaven, was expected to carry out the ritual on behalf of his peasants. Some were more practical: the Emperor Yu, who ruled 4000 years ago, is remembered today for his flood prevention work on the Huang He (Mallory, 1926, p. 2). Each year the Emperor ploughed a ceremonial furrow, imparting fertility to the national soil. When disaster struck, he was expected to intervene. The prayer of Tao Kwang for rain in 1832 expresses the Emperor's role: 'Not only do agriculture and human beings feel the dire calamity, but also beasts and insects, herbs

and trees, almost cease to live. I, the Minister of Heaven, am placed over mankind and am responsible for keeping the world in order, and tranquilizing the people.' He had fasted, and offered sacrifices on the altars of the gods of the land and grain, but without effect: 'the sole cause is the daily deeper atrocity of my sins; but little sincerity and little devotion. Hence, I have been unable to move Heaven's heart ... pardon my ignorance and stupidity, and grant me self-renovation; for myriads of innocent people are involved by me, the One man ... (Mallory, 1926, pp. 44–5).

The Emperer had need to pray, for if things became too serious, public unrest might reach a point at which it would become clear that the Mandate of Heaven had been withdrawn from him, and his throne would topple. For desperation could easily turn to violence and that, in turn, to revolt. Zhu De, the Chinese Marshal (1886–1976) recalled such a threat in his childhood, in the second summer of a drought in Sichuan.

> From the dust cloud there soon emerged a mass of human skeletons, the men armed with every kind of weapon, foot-bound women carrying babies on their backs, and naked children with enormous stomachs and cavernous red eyes plodding wearily behind them ... The avalanche of starving people poured down the Big Road, hundred of them eddying into the Zhu courtyard, saying, 'Come and eat off the big houses!' (Smedley, 1956, p. 41).

A disciple of Confucius had once asked in what lay the art of government:

> The Master replied that the three first requisites were, a sufficiency of food, a sufficiency of troops, and the confidence of the people. The disciple then asked which of these three could be dispensed with, in case of urgent necessity? Confucius replied, 'Dispense first with the troops and next with the food supply.' (Bland and Backhouse, 1910, p. 113)

When large numbers were starving, the troops could not be guaranteed; the confidence of the people was the last frail barrier between the Emperor and a new dynasty.

ORGANISATION FOR FAMINE RELIEF

From very early times, the Chinese state had attempted therefore to do what it could to relieve famine. The efforts had varying success. A

contemporary of Malthus, Hung Liang-chi, who was concerned about unchecked population growth, clearly thought the record an unimpressive one:

> In the case of flood, drought and plague, they can open granaries and allow the treasury to relieve the masses, but that is all there is as to the remedies that could possibly be put into effect by the emperor and the state officials. In short, in a long reign of peace, the emperor and his officials can neither stop human reproduction, nor are the measures they do dispose of adequate to provide the people with sustenance – no more at least than we have stated. (Silberman, 1960, p. 262)

From Yuan (1229–1368) and Ming (1368–1644) times, large quantities of grain were imported from other provinces to feed the metropolitan centres, and under the Qing (1644–1911) eight provinces were designated to supply grain to the capital. When north China had a poor harvest and prices rose, merchants were permitted to ship grain from Manchuria. However, such transfers were not always popular in the sending provinces. By the eighteenth century when the main grain imports to Beijing came from the central Chang Jiang valley, local Hunan and Hebei people complained that, in times of poor harvest, the continuation of the grain transfer caused local prices to reach a point where real hardship was felt, and they advocated the prohibition of exports. The idea of local agricultural self-sufficiency was the more popular because it was favoured by Confucian political theory (Li, 1982, p. 34). But peasant under-reporting of landholdings and of harvest yields remained endemic even in the areas administered by the Communists during the 1940s (Thaxton, 1983, p. 113).

For centuries the Grand Canal from the Chang Jiang to Beijing was the major transport route up through the eastern provinces to the northern cities. Built at terrible cost under the Mongols in the thirteenth century, this thousand-mile waterway was one of the more remarkable Chinese engineering feats, and was designed to ensure grain supplies to the capital. Where the Grand Canal crossed the Huang He, flood control was managed by an independent water conservancy body, the Yellow River Authority, which was initially extremely efficient. During the eighteenth century, however, it became an enormous bureaucracy, increasingly slow to anticipate floods or minimise damage. It demanded increasing tax funds and did less with them, until eventually 'its original objectives became

incompatible with the vested interests who served in it. Hence the most important phase of river control, the preservation of dykes, was deliberately neglected so that they would "rot faster, decay faster, and be carried away faster" thereby justifying the request for more appropriations' (Myers, 1970, p. 275). During the 1870s the canal was largely abandoned in favour of commercial imports of grain by sea.

Recently, some scholars have argued that in fact the state, at least during the eighteenth century, did possess the institutional and financial means to counteract wide fluctuations in grain prices and alleviate or prevent large-scale subsistence crises, and that this, indeed, explains the period's population growth (Li, 1982, p. 33). Such means included a highly professional bureaucracy, monthly reports on weather and grain prices prepared by provincial governors, river conservancy projects, and a state granary system which stabilised prices through sales and loans, and which could provide famine relief. Should a famine occur, emergency grain supplies, house-to-house registration of famine victims, emergency relief and soup kitchens minimised its impact.

These institutional efforts to avert or alleviate famine can be examined in a little more detail. The state granary system has been described as the mainstay of the programme (Bohr, 1972, p. 28) and during the Qing period consisted of three separate branches. The 'ever-normal' granary was managed by the local magistrate and contained supplies purchased or contributed by the local gentry; stocks were reported annually to the provincial government and the court. Quotas were fixed for each district. In times of famine local officials could loan the grain without interest, sell at below the market price, or distribute free grain. The other two stores were the charitable and the community granaries, established in each county to loan grain to local inhabitants with or without interest and managed by the local leadership under the magistrate's over-all direction. It is far from clear how well the various granaries actually performed; new grain was supposed to be substituted each year but might not be; some of the granaries became full of pests; sometimes the grain was not collected at all. By the twentieth century there is evidence that the system had more or less collapsed.

During the major famine of 1876–79, the government made an effort perhaps as strenuous as that of any in Chinese history to relieve the famine. Cash was sent to the devastated provinces from the imperial treasury. Grain was transferred from the government granaries, and grain tribute shipments to Beijing diverted. Taxes on

land were exempted or deferred for periods of one to three years, and extra famine relief taxes were levied on unstricken districts. Almost 18 million taels in taxes was remitted in the famine areas during the three years of the famine, besides over 2.6 million taels being allocated in direct aid (Bohr, 1972, p. 26). This effort was supplemented by that of local officials in cooperation with the local gentry. Local committees sought donations and examined the degree of need. They supplied farm tools and seeds to destitute farmers. 'Although the government's efforts in organising and coordinating relief were significant, it is nevertheless clear that the non-official sector, especially gentry and merchants, bore the brunt of financing the relief' (Bohr, 1972, p. 31).

The biggest problem the government faced in Shandong, one of the worst-hit provinces, was communications. It took several months before the suffering was known in the capital. The appalling state of the roads made it almost impossible to transport grain into the area; the drought-induced drop in water levels in the Grand Canal and its tributaries meant grain junks could hardly move. In mountainous Shanxi, also badly hit by the famine, the roads were, if anything, worse and the difficulty was compounded by the fact that the draught animals had either died or been eaten, and carts burned. 'The technological deficiencies of grain transport help to explain why in most cases only a trickle of grain ever reached the famine areas' (Bohr, 1972, p. 70). Bureaucratic confusion, mismanagement, inefficiency and even dishonesty were the other major contributing limitations.

As mentioned earlier, more significant in saving lives were the efforts of the private sector. Many gentry in the famine areas worked long and hard to ensure the distribution of grain and organise other relief efforts, from soup kitchens to the burial of the dead. Far more people, especially in the growing Chinese cities and above all the Treaty Ports, contributed to charitable fund-raising and their contributions dwarfed those of the government. One Chinese alone, Ting Jih-ch'ang, the former governor of Fujian, raised over 700 000 taels. Finally, an international appeal for funds raised over 200 000 taels, and a number of foreign workers – most, but not all, missionaries – performed remarkable services to the famine-struck populations.

Despite all these efforts, at least 9.5 million people died. Bohr's excellent study of this famine says that the story 'suggests that the Chinese state assumed that famine was an unavoidable fact of life,

part of the natural cycle ... In other words, the government was concerned only with relieving famine once it occurred rather than eliminating its causes altogether' (Bohr, 1972, p. 79). Mallory was to claim the same in his discussion of Chinese famines in the early twentieth century (Mallory, 1926, p. 71).

But it appears that even when it came to alleviating famines which did occur, the utmost efforts of the Chinese state were entirely inadequate if a sufficiently large, or remote, area was devastated. The national stores of grain had never been sufficient to cope with a really large famine, as at least one governor general had pointed out in the early 1700s (Bohr, 1972, p. 75). During the eighteenth and first half of the nineteenth century, it has been estimated that the amount stored probably represented only 3 or 4 per cent of the nation's grain output, and 'only a small fraction of this amount, of course, was available to any single famine-stricken province, enough for minor, but not major and widespread, disasters' (Perkins, 1969, p. 164). Much of the grain was stored locally and was clearly designed to deal with local shortages, rather than large-scale devastations over more than one province. The capacity to transport food across provinces or regions was extremely limited, and was often lessened still further by the very factors of drought or flood which helped to create the famine in the first place.

Even during the eighteenth century, when, as has already been mentioned, it is argued that famine relief was at its most efficient, inability to get rice to the remoter areas of Guangdong province, for example, was evident. In the famine of 1726–27, while rice prices doubled in Guangzhou, they were seven times and more the normal level in remote areas. 'With such prices, savings, if any, were quickly wiped out. If a peasant did not have land to put up as security for a loan (and less than half the farmers of Guangdong did), he either grew sweet potatoes (if possible) or fled to the city on the slim hope of finding work there, or he stayed and died. In the provincewide famines of 1726–27 and 1786–87 there was no sanctuary to flee to and one suspects that enormous numbers of people starved' (Perkins, 1969, p. 164).

Given that the majority of famines in China appear to have been comparatively small-scale, and caused by a local natural disaster, and given the country's size and poverty, a policy which could mitigate the effects of this majority of incidents may have been not unreasonable. Its limitations, however, became grossly apparent in times of major catastrophe.

THE CONSEQUENCES OF FAMINE

Peasants reacted to famine in a range of ways, and many of the accounts echo each other when describing peasant behaviour, so that we can assume that many of the mechanisms are traditional. They have been summed up by one author:

> The first step a family takes is to reduce food consumption. Instead of bread, people eat thin gruel, and add weeds, grass and other greens, and almost anything else not poisonous. Part of the family go off as refugees. If the remaining food will not suffice until the next expected crop, people begin to sell their few possessions – first livestock and farm utensils, then windows of a house, then the roof. Farm land and the remaining skeleton of the house are sold. Next, daughters and wives may be sold off as servants, slaves or wives ... When demand for females was filled, children were simply abandoned. The remainder of the family could only turn to begging. Sometimes families committed suicide ... human flesh is eaten – usually from famished corpses; but sometimes from murdered kin, kidnapped children, or defeated bandits. At this stage of a famine, banditry becomes widespread and disease spreads rapidly, especially typhus fever. (Stavis, 1982, p. 118).

In fact, apart from the rather unreliable estimates of the numbers of deaths due to famine (poor communications, and an inadequate vital registration system, compounded by the amount of famine-induced migration, made for inadequate counts of the dead, and it is seldom clear whether the counts that do exist are of all deaths during the period, or for the excess deaths due to the famine itself) very little is known about which members of the population died, or of what. Towards the end of the 1876–79 famine the governor of Shanxi told Beijing that 60–70 per cent of the population had typhoid fever. Some of the things which the starving peasants ate caused painful sickness and death. The large number of unburied corpses and the packs of hungry dogs which fed on them, and even the living, contributed to the spread of a range of infections (Bohr, 1972, pp. 20–3). Typhus, typhoid (the two are interchangeable in nineteenth-century definition) and cholera are among those infections which are mentioned from time to time in the literature. Given that it was women and children who appear, from the descriptions of sales and abandonment, to have been most 'expendable' during the famine, it is possible to assume that they were less likely to get an equal share of such food as there was.

One demographic impact of disaster can be clearly identified at the micro-level. A study of sixteen clans from Zhejiang, Jiangsu and Anhui provinces between 1400 and 1900, grouped male births into five-year cohorts which, when plotted on a graph, show considerable fluctuations. The declines in births coincide with local calamities, recorded in the districts where these clans lived (Liu Ts'ui-jung, 1981, p. 125). An example of these clan records is given in Fig. 3.1.

Exactly why the number of births – or of reported births – declined in famines is still unclear. Fertility itself may have fallen because of a lack of libido, or because the women ceased to menstruate, or because families split up.

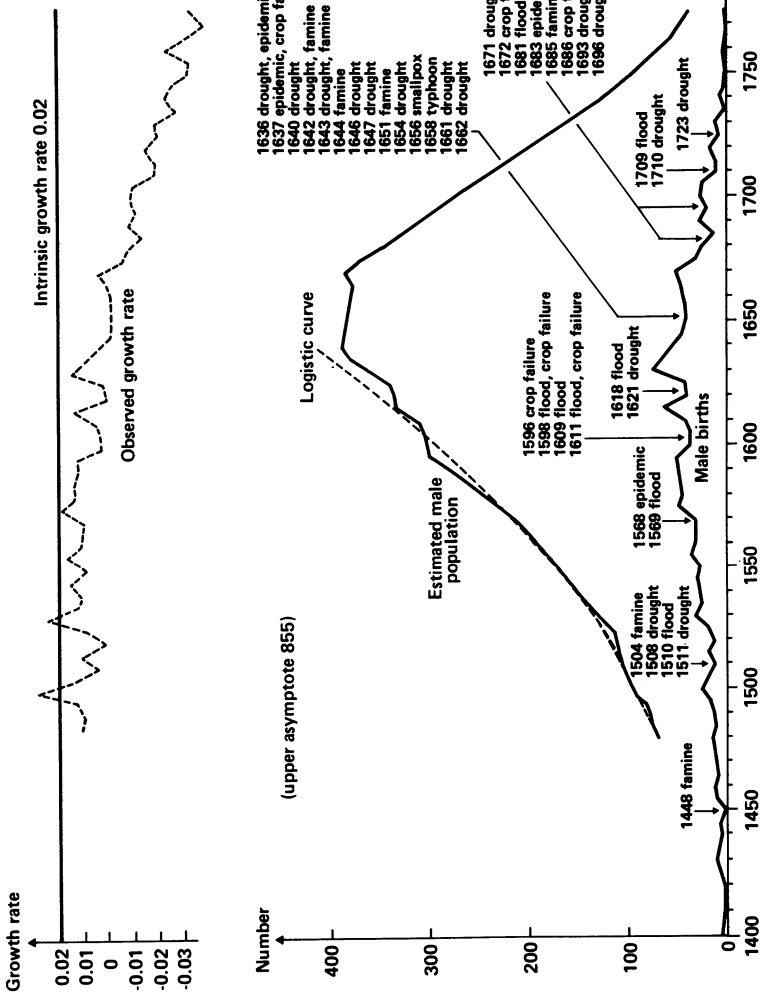
> Many of my older informants told vivid tales of the terrible drought in 1928–31, when rich and poor alike abandoned their homes and fled south in search of something to eat. The strategy in such desperate times was for husband and wife to divide up the children and flee in separate directions. It was understood that what little food they might find would not suffice for the entire family. (Wolf, 1984, p. 465)

There would probably have been an excess of low birthweight and stillborn infants. Those that survived may have been weak, unable to suckle, or sickly. Infanticide, especially of female babies, was not uncommon among the poor even under more normal circumstances (Kane, 1987).

Household division – the system under which the family property was divided up among the sons – occurred less frequently when an area had been hit by harvest failures. A drop in the birth rate (as happened in many villages around Beijing in the 1920s) and the subsequent shortage of young people meant that a long time had to elapse before the percentage of young again bulked large in the village population, so that the formation of new households was delayed.

The drought of north China, in 1920–21, in which some half a million perished, affected some 20 million over-all.

> A house-to-house canvas revealed the following bill of fare: *k'ang*, mixed with wheat blades, flour made out of ground leaves, fuller's earth, flower seed, poplar buds, corncobs, *hung ching tsai* (steamed balls of some wild herb), sawdust, thistles, leaf dust, poisonous tree bean, *kaoliang* [sorghum] husks, cotton seed, elm bark bean cakes (very unpalatable), peanut hulls, sweet potato vines ground (considered a great delicacy), roots, stone-ground up into flour to



Source: Liu Ts'ui-jung, 1981

Figure 3.1 The Effects of Natural Disasters on Tz'u-ch'i Ch'ien Clan, China 1400–1750

> piece out the ground leaves. Some of the food was so unpalatable that the children starved, refusing to eat it. (Mallory, 1926, p. 2)

Sweet potato vines, ground leaves, thistle and watergrass are also mentioned as being eaten in the famines of 1876–79 and 1920–21 by the peasants of Hebei, Shandong and Hunan (Thaxton, 1983, p. 62). Richard described the foods eaten by the peasants of Shandong in 1876–79; his list of edibles is much the same but includes potato stalks, buckwheat stalks and turnip leaves (Bohr, 1972, p. 14). In large areas of Shandong, 'trees with their bark stripped to a height of twenty feet could be seen as stark witness to the famine's terrifying devastation' (ibid., p. 20). In 1928, in a cotton-growing area of Shandong, where half the food crop was lost and the bottom had dropped out of the cotton market, villagers ate chaff and cotton seed (Thaxton, 1983, pp. 79–80). Peanut shells and tree bark are the foods listed in the Hunan famine of 1942 (Thaxton, 1983, p. 177) while, in the same year, the anti-guerrilla tactics of the Japanese in southern Hebei led to so much starvation that 'the bones of the dead were burned and eaten by the living victims of this militarist ravage' (Thaxton, 1983, p. 181).

It is noticeable that the usually uneaten parts of cultivated crops make up a high proportion of the food alternatives to which the peasants resorted. The intense, market-garden nature of Chinese agriculture meant that very little land remained uncultivated. Thus the fruit, roots and leaves of wild plants, which are commonly mentioned as alternative food sources in other famine-prone parts of the world, were largely unavailable to the Chinese.

Everything that could be sold, Mallory reported of the 1920–21 famine, was sold, including the roof timbers (usually bought for fuel); interest rates rose to more than 100 per cent; migration became extensive with, in some areas, whole villages moving out; and the sale of women and children became widespread. In the 1876–79 famine, over 10 million Chinese migrated to Jiangsu, Shandong's southern neighbour (Bohr, 1972, p. 19). Thaxton describes the Shandong villages in 1928 as losing up to more than half of their populations by out-migration; among those who stayed, the sale of children became common. In one village of 130 families, more than one hundred children were sold (Thaxton, 1983, p. 80). In one county of Shandong in between 1876 and 1879, more than 100 000 women and children had been sold (Bohr, 1972, p. 15).

Land, if the peasant were lucky enough to own some, was often

sold. Poor harvests during the 1920s and 1930s resulted in two-thirds of the land, in one village, being mortgaged to outsiders (Myers, 1970, p. 71). Those who rented their land tried to switch in bad years from a fixed rent system to paying a percentage of the harvest (usually between 30 and 65 per cent went to the landlord), because that way both parties got at least some share of the harvest (Myers, 1970, pp. 228–9). Some landlords did well out of famines: one in Shandong, during a bad famine in 1917, when the peasants were reduced to eating leaves off the trees, loaned grain to peasants in exchange for the titles to plots of land. The amount of grain he offered was just over a third of the amount that, in later years, the plots produced in annual rent. This landlord – an absentee – used his profit to go into commerce, money-lending and handicraft (Myers, 1970, p. 233).

One effect of famine, seldom explicitly referred to – perhaps because it is less immediately dramatic than some of its other features – is a reduction in the numbers of those going to school or undergoing further studies. Schooling in China in the nineteenth century had to be paid for by the individual family; often, that family would make considerable sacrifices to ensure at least one child received an education. During the famine of 1876–79, Tseng Kuo-ch'uan, the governor of Shanxi and an energetic relief administrator, reported to the court that the famine had severely disrupted education in the province. Schools were closed; students preparing for the provincial examination to be held in 1878 were forced to discontinue their studies. No more than a hundred students remained in larger districts, while only fifty to sixty were left in smaller districts. He petitioned the court for permission to postpone the provincial examination, and added that in order that the province 'not suffer in the future' he hoped to rehabilitate education as quickly as possible (Bohr, 1972, p. 138).

Very little is known about any efforts made by the extended family to support hard-hit members in famine areas. There were an increasing number of urban Chinese in the late nineteenth and early twentieth centuries, who may have sent remittances back to their native villages, though in some areas the difficulty of grain distribution could still have left the family with little to spend the money on. Where a strong clan system prevailed, clan granaries, savings and the cash of its richer members, helped to support the family group. When floods and drought devastated central Honan in 1849, local villages operated mutual aid programmes: the starving

were employed to guard the grain of the wealthy in return for food, or received grain in support for the services of male family members in the militia organised for local defence (Bohr, 1972, p. 41). Another source of assistance may have been relatives on the wife's side of the family. Despite the widespread assumption that once a wife had joined her husband's family her own people had little interest in, or responsibility for, her welfare, it appears that, especially in cases of emergency, maternal relatives were called upon for help. Because they lived in a different village, where things like planting and harvesting times might be slightly different, an emergency such as a threatened typhoon could elicit free assistance (Baker, 1979, p. 130). It seems probable that aid was also expected in a longer crisis, if the maternal village had escaped or suffered less from the conditions bringing about famine.

If driven to destitution and despair, a peasant might turn lawless. Banditry became the only possibility left to many of them, and all accounts of famine indicate that it was accompanied by a huge increase in the numbers of bandits, preying on whoever still possessed anything. Fear that these desperate groups would join together, and that law, order and the Mandate of Heaven would all collapse under the strain, provoked strong government reaction. The acting magistrate of Lin-fen county in Shanxi during the 1876–79 famine was Chiang Lien, whose relief work was exemplary. He was also concerned, however, about the robbers who roamed the area in bands of up to a hundred or even more. Eight or nine were sentenced to death, while 'the number of robbers who were dealt with summarily on the spot, or thrown into prison and starved to death, was beyond computation'. Nevertheless, he lamented, 'men rushed heedless on to death, and in spite of the executioner's axe, they went utterly regardless of the law, as though they had no wish whatever to live (Bohr, 1972, pp. 63–4).

Recovery from a natural disaster could be slowed by a shortage of animal fertiliser. During a famine, animals were killed to save fodder and to be eaten themselves. But five pigs could produce enough fertiliser for 30 mu of land, whereas a family of five people could only produce enough for 8 mu and, in general, human excrement constituted only a small part of the fertiliser supplied to fields (Myers, 1970, pp. 46 and 171). Thus, even when a peasant had managed to retain his land, the sale of tools and the loss of animals, together with the debts he had incurred, could seriously handicap his efforts to re-establish himself.

4 The Human Factor

STRUCTURES AND STRESSES DURING THE 1950s

If the land/man ratio has always been low in China, increased pressures on the land intensified after the 1940s. The number of workers per hectare of arable land grew by about 2.5 per cent annually between the mid-1950s and the mid-1970s and, despite land reclamation programmes, the quantity of arable land available is said to have shrunk by more than 10 per cent during the same period (Lardy, 1983, pp. 3–5).

Grain remained the staple food of Chinese households. Whether those households were in the rice-producing southern provinces, or the wheat-producing northern ones, whether they sold the coarser grains for a smaller but more attractive supply of fine grains, cereals – even in a city like Beijing – provided more than 90 per cent of food energy (Croll, 1983, p. 26). In northern and east central China, there had even been, until the 1950s at least, a shortage of home vegetable gardens to supplement the diet.

An improved agricultural base was needed not only to feed the people, but to provide a surplus for the development of China as an industrial nation. Following the Soviet model of an essentially extractive policy towards agriculture, the First Five Year Plan (1953–58) gave overwhelming budgetary priority to industry, with agriculture, forestry and water between them being allocated only 7.6 per cent of the funds. It was assumed that economies of scale, increased irrigation, and the intensification of traditional agriculture, would lead to the necessary increases in productivity.

Economies of scale were to be achieved by collectivisation. Land reform – of which the communists already had considerable experience in the Liberated Areas – was extended to the whole of China by 1952. It involved redistribution, largely to the poor and middle peasants, with every family receiving a share. Cultivated land, always in short supply in China, had dwindled from 120 million hectares in 1936 to 98 million in 1949, when it had to support some 550 million people. Improving productivity and extending the area under cultivation required access to tools, agricultural equipment and fertilizer, which the peasant family simply did not possess. Land reform was thus followed first by mutual aid teams, sharing

equipment and labour, and then by cooperatives, which by the end of 1957, included the collective ownership of land.

Efforts to increase irrigation and water conservancy culminated in massive projects undertaken during 1957 and 1958, with an original target for the area to be irrigated within a year being increased twice, and still being over-fulfilled. Unfortunately, not all the projects were well chosen, and some resulted in increases in salinity and serious losses to agriculture, particularly in Hebei, Henan and Shandong.

Nevertheless, grain output during the 1950s increased steadily until 1957, with the achievement largely coming, as had been hoped, from the intensification of traditional agriculture, and economies of scale.

Table 4.1 China's Grain Output, 1952–57

Year	*Total grain* (million tons)	*Grain per head* (kg)	*Rice*	*Wheat* (million tons)	*Corn*	*Other*
1952	163.9	278	68.4	18.1	16.9	25.8
1953	166.8	283	71.3	18.3	16.7	26.6
1954	169.5	281	70.9	23.3	17.1	26.1
1955	183.9	299	78.0	23.0	20.3	28.0
1956	192.7	300	82.5	24.8	23.1	32.1
1957	195.1	301	86.8	23.6	21.4	32.0

SOURCE: State Statistical Bureau, 1983.

Much of the extra grain produced was kept by the peasants for their own use. Rises in the procurement prices for grain, of some 17 to 20 per cent between 1950 and 1952, were insufficient to draw grain on to the market in the quantities needed. From 1953 onwards, the state assumed a monopoly of the purchase of grain and offered regularly increased prices. Agricultural taxes also continued to be called for in grain, and the government set the tax, during the First Five Year period, at about the levels of 1952. The tax was based on a proportion of assumed 'normal' yield (said to be below the actual average of the land assessed) and between 1952 and 1957 averaged some 10.5 per cent over-all, though it varied from province to province and, within a 25 per cent limit, from unit to unit within provinces. Neither measure was sufficient to ensure a supply of grain for the cities, the army, the feeding of grain-deficit areas, and the building up of national reserves. It did, however, cause resentment among the peasants, as the tax amounted to some 40 per cent of all the surplus grain otherwise available for sale (Walker, 1984, p. 49).

Traditionally, peasants had grown grain primarily for themselves,

and 'the producer will not sell his rice unless he has a specific need for cash or for a commodity, in which case he will sell or exchange only the required amount of his product ... supply is determined not by prices but solely by the needs of the producers' (Fei Xiaotong and Chang Chihi, 1949, p. 106). The state was now attempting to change this attitude by the creation of conditions in which the only way of increasing income was to increase output. Neither renting out land nor hiring labour was possible any longer, and credit cooperatives and government low-interest loans had replaced private money-lending. The government monopoly of purchase closed off the last significant option available to peasants for getting rich through independent action, and consequently made cooperativisation, when it came, much less of a sacrifice than it would otherwise have been.

In 1955 each unit was given a fixed quota to produce, and quotas for compulsory purchase by the state were introduced, together with quotas to be sold to grain-deficit areas. Further, the state set quotas for hectarage to be planted by crop and these cropping quotas (said to cover more than three quarters of the cultivated land) were set largely by directives. The directives were intended to ensure fulfilment of the quotas, but were perceived by the peasants as reducing their bargaining power against the state. The first result of these policies was a fall of 4–5 per cent in the quantity of grain procured by the state, despite a favourable harvest. In 1956 recourse had to be made to an escape clause in the policy allowing a rise in compulsory sales of up to 40 per cent of the extra output. Even that 40 per cent limitation was lifted the following year, by a State Council decree permitting the figure to be exceeded in special circumstances. Between 1953 and 1956 the grain taken by the state in tax and compulsory purchase has been estimated as amounting to between a fifth and a third of total output (Donnithorne, 1970, p. 8).

However, as there was a critical shortage of storage capacity at the state level, much of the grain produced had to be left in village granaries, hampering the prospect of its effective use elsewhere. Poor transport systems also limited the possibility of quick and effective grain transfers. Although the National Agricultural Development Programme stated that by the mid-1960s, the country should have built up one to two years' grain requirements (and collectives were urged to hold from three to eighteen months supply), between 1953 and 1957, less than 10 million tons of grain, or only about 4.8 per cent of the total procured, went to the state reserves. One reason was the very high level – some 90 to 94 per cent of provincial surpluses – of

exports, either to other provinces or abroad. The planning of provincial exports was 'inevitably, done on a very short-run, month-by-month basis' (Walker, 1984, p. 78) but their total, in the range of 9.5 to 10.5 million tons a year, was alarmingly close to the total procurement surpluses, of around 10.6 million tons annually.

Local self-sufficiency, and minimal inter-provincial transfers, may have been an inevitable policy in the circumstances of the time. They meant, however, that provinces which did not meet their own needs did not necessarily have their supplies augmented to a desirable level. Hebei, Shanxi and Jiangsu in 1956, and Hebei, Shanxi, Shandong and Shaanxi in 1957, were provinces which suffered as a result. Thus in 1956, Hebei's *per capita* grain supply, even after state intervention, was only 56 per cent of that retained by Heilongjiang.

In 1956 there may have been an additional reason for the poor level of state reserves. As part of the effort to encourage peasants to join the new Advanced Agricultural Cooperatives, Mao Zedong argued that 90 per cent of the members of these new units would receive higher incomes. 'The available evidence indicates that this target was kept, even at the expense of failing to meet quotas for sales to the state and a resulting reduction of the state's stock of agricultural products' (Dernberger, 1982, p. 72). In the same year, restrictions on rural markets were reduced and private grain sales increased to some 4 to 6 million tons, or at least 10 per cent of state grain procurement and taxes. It has been estimated that perhaps as many as half of China's peasant households drew on the markets – either state or rural – to meet their food needs (Lardy, 1983, p. 32). The expansions of sales in rural markets undermined the state's ability to purchase grain or to collect grain tax.

Expectations of a higher living standard encouraged peasants to block roads refusing to allow grain to be taken away, or – in collaboration with local cadres – to petition for concessions, even at the expense of falsifying the data relating to sown area, grain yields, the scale of local disasters, numbers of local people and the numbers of livestock needing grain (Walker, 1984, p. 64). In 1957, the state managed to regain much of its control over procurement.

These were the concerns of the state, rather than individual families. For them, the return of normalcy and a share in the land meant that good times were not merely just around the corner but coming within reach. They were encouraged in this belief by the Socialist Education campaign, designed to consolidate the changes and involving much comparison between the present and the past. In

Yangyi commune each household was asked to work out its income over the past few years and the lessons were drawn up in two columns under the headings 'The Evil Things of the Old Days' and 'The Good Things of Today'. In the village of Two Mile Inn the contrast was posed in a more dramatic form. Two village families were chosen to display their possessions past and present.

> The rags they had once worn during the day or covered themselves with at night were placed besides their new clothes and their piles of silk and cotton bedding, gaily coloured and thickly padded against the winter cold. Cracked earthenware begging bowls were set near new enamel washbasins and shiny thermos flasks; tattered cloth shoes and wooden clogs, besides glossy rubber boots. Similar exhibitions were to be found in every village. (Crook and Crook, 1966, p. 74)

Fei Xiaotong captured the mood when he returned in 1957 to Kaixian'gong village, first studied a quarter of a century earlier in his classic *Peasant Life in China* (1939).

> The land was divided, the irrigation channels were repaired, and crops were better and better each year. Such things had never happened before . . . this was the first year that one could replace the old cotton-padded jackets with new, better-made ones. If going barefoot was uncomfortable, they bought a pair of rubber boots. The young people were even more proud in their uniform jackets. At New Years [sic] the pigs had already been raised and, since it was meat that one did not have to put out cash to buy, they butchered the fat ones to have feasts, invite guests, have a little extra food, and so regain a little self-respect.

'One cannot say that the villagers actually wore too much clothing or ate too much. . .' but, he was afraid, they were consuming more than was safe (Fei Xiaotong, 1983, p. 193). On his return from the village, he reported, those with whom he discussed the question thought that official propaganda, by stressing the gains from collectivisation too one-sidedly, had helped to foster such improvident optimism. But it is possible that no amount of official warning would have deterred peasants with no experience of saving for the future from adopting the attitude of 'three meals a day; we'll eat our way to socialism'.

Han Suyin was more critical: 'As for meat, it was becoming scarce. But one reason for its scarcity was that the peasants in the communes, in their delirious joy that "communism has now come" had stuffed

themselves with vast amounts of pork flesh, each peasant eating and carousing. "Why save? The government will provide. This is communism".' (Han Suyin, 1980, p. 242). Others, she noted, 'had gone on a spree of buying, using all the funds they had been loaned by the government to purchase television sets, to erect cinemas. They had instituted free food, free clothes, free everything, including haircuts. As a result, they had no reserves left' (ibid., p. 252).

The increase in consumption, especially food consumption, was a traditional Chinese peasant reaction to any increase in income. Fei Xiaotong and Chang Chihi had earlier questioned, so far as China was concerned, the validity of Engel's law that an increase in the percentage of income spent on food indicates a lowering of the standard of living. 'The Chinese have a tendency to increase the money spent on food if they are able, not merely for actual nourishment, but as a luxury' (Fei and Chang, 1949, pp. 249–53). This behaviour still continues today: between 1978 and 1982, the income of the families of Chinese workers increased by 8.2 per cent and that of peasants by 15 per cent, but the percentages of that income spent on food rose by two points for workers' and a third of a point for peasants' families (Li Chengrui, 1985, pp. 17–18). During the period 1953–57, rural grain consumption for each person rose – in some cases very considerably – in 19 out of the 24 provinces (Walker, 1984, p. 104). Fei and Chang had also noted the impossibility, for most Chinese, of acquiring assets: 'The general economic condition of most of the peasants is one in which they subsist on such a low level of income that it is very difficult to make savings' (Fei and Chang, 1949, p. 265). There was thus little experience of how to handle surpluses, and less understanding, especially in the new improved conditions, of the value of putting something aside.

THE GREAT LEAP FORWARD

The Great Leap Forward has been the focus of considerable attention, most notably from MacFarquahar (1983). Here, it is sufficient to note that the Chinese leadership, and Mao Zedong especially, content neither with the success of their policies (industrial production increasing at an annual rate of 18 per cent) nor with their limitations (annual increases in agriculture of less than 4 per cent) turned to ideology and the massive available labour-power

to lift China into a modern, industrial nation. If, as has been argued, the Chinese revolution from 1927 onwards had achieved victory less by objective causes than by 'a supreme exertion of human will and intelligence', the growth among its leaders of a 'hubristic self-confidence and a belief in the almost infinite possibilities of manipulating the Chinese people' appears intelligible, if disastrous (Rodzinski, 1984, p. 404).

One facet of the Leap was the mobilisation of millions of people to produce steel through decentralised small-scale smelting, expected to result in a four-fold increase in production. Ideological commitment, mass mobilisation, and organisation, were viewed as possible substitutes for expertness, professionalism, and the availability of capital equipment (Eckstein, 1977, p. 35). By September 1958, 20 million people were involved and at the height of the campaign the number rose to 90 million. It was estimated that during the last four months of the year, the work involved would have amounted to 90 million workdays in a normal year. 'In railway sheds, in the courtyards of houses, in the basketball grounds of schools, I saw the relics of small brick furnaces; they had been used to make steel in the great steel drive of 1958 ... Even the beautiful Madame Soong Chingling [widow of Sun Yatsen] had made steel, setting an example. And millions of small schoolchildren had made steel' (Han Suyin, 1980, p. 243).

Much of the iron and steel which was made was useless. 'It was often only after a furnace had been built that cadres belatedly began casting about for iron ore and the fuel to fire it. In areas that had no ready supply of coal ... cadres turned to felling local trees ... In Sandhead only the huge, gnarled magnolias that had guarded the village entranceway for generations survived the axe...' (Mosher, 1983, p. 265). Inability to get enough ore in this village led to a scavenger hunt. 'Cadres wrenched out iron gratings from the windows of homes and left the peasants to replace them with bamboo. They "borrowed" Old Wang's small store of scrap iron, leaving a promissory note that proved uncollectable. They even made kitchen calls insisting that women donate their cooking utensils – wok, pot and barrel...' (ibid., p. 266) which they claimed were no longer needed because of the communal mess-halls. When the famine came it was exacerbated by the lack of equipment in which to cook scavenged foods, as well as by an even greater dearth of wild foods than usual in China, because of the felled trees.

More importantly, however, the campaign siphoned off peasant

labour in a year when everything pointed to a bumper harvest. Such labour as there was came predominantly from women, whose agricultural participation rates peaked at around 80 per cent at this time (Kane, 1987). Many – perhaps even the majority – were totally inexperienced in farm work.

Much of the crop had to be abandoned and rotted for want of harvesters. Even in Yangyi, with a long history of involvement in the communist movement, the Crooks were told that the steel campaign had drawn in all the most energetic people and the harvesting had been 'rather slapdash. With a shortage of field hands at the crucial moment, some fields had been reaped too fast, others too late . . . so some grain was lost' (Crook and Crook, 1966, p. 59). One peasant recalled seeing corn lying on the ground, and asking another why it was not picked up. ' "Why don't you pick it up yourself?" he shot back. "At least you could use it for popcorn", I said. "Who needs it?" replied the peasant. That was the attitude some had. Grain lay all over the place that year. There just wasn't enough transport to take away all the public grain. It was piled up beside the highway. If an empty truck came along, the crew loaded some of it on. . .' (Hinton, 1983, pp. 214–15).

General Peng Dehuai, Vice-Chairman of the State Council and Minister of Defence, had a similar experience. He found a large pile of ripe crops abandoned on the ground, and was told by an old peasant whom he finally located that everybody was too busy setting a steel record to harvest it. 'Peng exclaimed, "Hasn't any one of you given a thought to what you will eat next year if you don't bring in the crops? You're never going to be able to eat steel!" The old peasant nodded vigorously in agreement, but added pointedly: "True enough; who would disagree with that. But apart from when the centre sends down a high-ranking cadre, who can stand up against this wind?"' (MacFarquahar, 1983, p. 195). Later on in his tour of the north-west, Peng found that some houses, as well as fruit trees, had been knocked down in one locality, to provide wood to fuel the furnaces, while iron cooking pots had been used as raw material. Going on to Hunan, he discovered more iron cooking pots being used as raw material to produce simply more iron, while useless lumps of it rotted on the ground. Peng summed up his distress in a poem:

The millet is scattered all over the ground
The leaves of the sweet potato are withered.
The young and the strong have gone to smelt iron

> To harvest the grain there are children and old women.
> How shall we get through next year?
> I shall agitate and speak out on behalf of the people. (Macfarquahar, 1983, p. 200)

Peng's reaction, which was to challenge Mao's whole grand design at the Lushan Conference of July–August 1959, is discussed in more detail later in Chapter 7. Meanwhile, those involved in the projects of the Great Leap were eating away at local food reserves. In south-east Shanxi, one peasant recalled: 'We all ate well during the smelting drive – bread and noodles at midnight for all hands. Huge pots next to every furnace provided the noodles. Who can ever forget it?' (Hinton, 1983, p. 216). Revisiting the village of Long Bow in the 1970s, Hinton found that what had kept people going during the continuous work was the food. 'If there was one facet of the Great Leap that everyone remembered, it was the food. "We lived well," said Wen-te. "We ate a lot of meat. It was considered revolutionary then to eat meat, If you didn't eat meat it wouldn't do.... People even vied with each other to see who could eat the most." "Teams on shock work could stop and eat anytime, anywhere," said Ts'ai-yuan. "And they could eat all they wanted to."' (Hinton, 1983, p. 219).

Those mobilised to take part in big construction projects – dam-building, for instance – got extra rations. Another village remembered 500 men being sent to build a dam. For the first few days, before the dam-building began, they helped local villagers pick cotton and the delighted villagers repaid them with three large goats. Once the official task started, 'Our basic ration was 1.2 catties per person per day, and this we brought with us from Long Bow. For each cubic metre of earth we moved, we got another 3 catties of grain. Of this, 40 per cent was wheat flour. In addition, we earned a 45-fen cash subsidy for extras such as salt, soy sauce or vinegar. Because we worked so fast we took in more money than we could use...' (Hinton, 1983, pp. 221–2).

The reaction to all this extra work was, probably, to reduce the amount of effort which went into other, routine, tasks. Another of Fei Xiaotong's studies had noted that:

> the real incentive to work is a striving not for material gain but merely for subsistence. When subsistence is secured, the peasants relax and even retire from active work. They are satisfied at the level at which a comfortable living is maintained, "comfort" being defined by the absence of strenuous effort rather than by the

> satisfaction of numerous material wants. . . . The suffering involved in work is not inconsiderable . . . The Chinese truly describe work as "sweat and blood". That this is literally true we can testify, for we were constantly being called upon to give first aid to the workers. The people who work on the farms, being made of flesh and blood, would be difficult to convince that greater happiness would be achieved by more work. The avoidance of painful experiences, which are necessarily involved in work, is their immediate concern. (Fei and Chang, 1949, pp. 82–3)

While the Revolution and land reform may have given a new incentive, the fact remains that working conditions, such as labour-intensive toil with simple production implements, were largely unchanged.

Peasant enthusiasm for the Leap was blunted by the introduction of communes in place of the still-new cooperatives. Between August and November 1958, 98 per cent of the farm population was said to have been organised into communes, each containing, on average, some thirty cooperatives or around 25 000 people. Communes took over all agricultural and industrial resources, collected taxes, absorbed the old administrative functions of a town or district, ran banks, cemetaries, schools and so on. The administrative problems consequent on such a huge shift in responsibilities are easily imagined. Some ambitious communes wanted to establish full socialism at once: from Henan came the account of a free supply system where seven of the ten 'basic necessities of life' were borne by the commune – eating, clothing, housing, childbirth, education, medical treatment, marriage and funeral expenses (Snow, 1966, p. 434). Communes such as this quickly exhausted their reserves. The East Wind commune undertook to supply free food and education and 'gave people an unprecedented sense of security. Many stopped saving against illness, old age and burial expenses, and began to spend money on the four jewels instead – bicycles, sewing machines, wrist watches, and radios. . . .the whole attitude to savings began to change. People thought more about the things they wanted, and less about possible catastrophes' (Hinton, 1983, p. 229).

In Yangyi, the cadres of one village, as soon as they heard about handing over all funds to the commune, rushed out and bought three bicycles for the brigade, which was among the wealthier ones in the commune and was not prepared to see its savings disappear into a common fund (Crook and Crook, 1966, pp. 35–6).

When the communes were introduced, there was at first no indication of how the peasants were to be compensated for their possessions. Some communes went beyond the common ownership of land and equipment such as animals and tools, and were even trying to collectivise personal property like cooking pots, bedding and furniture. Many peasants tried to sell them, rather than hand them over to the communes – but the market was saturated. In the case of food and draught animals, there were obvious solutions: families ate their private stores and the brigades (the old cooperatives) hid what they could. Han Suyin was told in one village that out of 170 pigs in the village in 1957, only 28 were left in 1959. The team with the worst record in the commune had only four pigs left out of 200 (Han Suyin, 1980, p. 350). As it turned out, the reduction in pigs and other household livestock was probably of less importance than the killing of draught animals, when the famine came. For distributing food, China's limited transport system depended, in the main, on grain being moved in horse- or ox-drawn carts. Diminution in their numbers had begun with the Leap, even before grain shortages forced people to sell or to kill their draught animals. A further reason for hiding or consuming food was the introduction with the communes of community mess-halls, which it was feared would encourage extravagance and subsidise the poorer or less-hardworking families at the expense of the rest. Often badly managed and providing an inadequate diet, the mess-halls proved rapidly unpopular (Croll, 1983, p. 360–5).

The Crooks describe a variety of canteens in Yangyi commune, ranging from the well-organised and popular to those where the cook refused to post accounts (he thought the suggestion a slight on his honesty) or to vary his cooking ('I cook whatever we've got. If there's wheat we have wheat. And if there's maize we have maize.'). Another canteen, merged from two original ones, contained a cook who continued to favour his old canteen members with larger helpings; yet another contained cooks who thought cooking such a menial job that they could only be persuaded to do it properly when the Brigade Party Secretary came and joined them. In the end, reorganised and carefully monitored canteens in the commune worked well – but the expenses of wages and fuel had to be born by the work teams which had never envisaged such a thing from their limited experience of household budgets; moreover, as the fires in the homes which provided cooking facilities had to be used for heating in any case, much of the family work and cost remained even when they

paid to eat in the canteen. The winter of 1960–61 saw the closing of the Yangyi canteens: 'with the natural calamities of those years, the revolution in housework had to mark time' (Crook and Crook, 1966, pp. 151–8). In Long Bow, the dining rooms had initially been quite popular, but became less so as shortages increased, and those who worked harder began to resent sharing equally with those who had done less. Some families left the system, which finally collapsed in 1962 (Hinton, 1983, p. 232).

In addition to their other problems, an element of tension was provided by the fact that, very often, the cook was a 'class enemy' – a former landlord or rich peasant – because poor and middle peasants were supposed to work the land, and such people were the only ones available for new duties (Han Suyin, 1980, p. 298). Allegations that the cook got fat at the villagers' expense gained plausibility from the lingering resentment and suspicion which such people occasioned.

Probably the final straw for many peasants during the introduction of communes were the efforts in some of those communes to remove the private plots on which the peasants grew vegetables to supplement their diet, and for sale. Surveys in the late 1950s suggested that some 20–30 per cent of peasants' cash income came from sales of produce from the plots (Walker, 1962, p. 48). These plots formed a percentage of collective land, which fluctuated over time both in official regulations and in local allocation; in practice, the area of private plots has tended to be around 5–8 per cent. Such plots as were left became, under the regulations of 1958, taxable.

The prospect of a bumper harvest, and the euphoria of the early period of the Leap, led to absurd targets for agriculture. These, in turn, led to falsified reports and those, in their turn, to new and more impossible targets and equally impossible claims of units surpassing them. Alleged over-fulfilment of quotas also led to increased compulsory sales demands, which provinces could not meet. After 1958, some provinces manipulated statistics the other way – under-reporting production to get their quotas reduced, if they were grain exporters, or raised if they were grain-deficit areas.

An instance of how the claims were fuelled and how difficult it was later to face reality comes from Yangyi commune. Ten Mile Inn brigade drafted a plan for 1959 which included output figures involving an average grain yield of 600 jin per mu. 'This figure was a product of the confidence which came from the Great Leap Forward of 1958 and of determination to "continue to oppose conservatism" as

called for by the Central Committee of the Communist Party. But it was based on the early, exaggerated figures for the previous year' (Crook and Crook, 1966, p. 121). Once the actual grain yields for 1958 became apparent, average output proved to have been 316 jin per mu. This was a good increase on previous years but well below the extraordinary targets. The corrected figure caused pessimism: 'targets were the basis for both bonuses for over-fulfilment and penalties for under-fulfilment...' and now the peasants became listless and dissatisfied with the local leaders. Ultimately, the target was revised downward to 370 jin per mu for 1959 and in the event this target was apparently surpassed.

The 'exaggeration wind' was described by Chen Yung-Kuei, brigade leader of the brigade of Dajai, later to be held up as the model for emulation in communes throughout China, and later still accused of falsifying its results. At this period it appears that Dajai was still too stubborn or too naive to go along with the Great Leap euphoria. Under pressure from the Party Committee of the county and the region to report dramatic yields, Chen Yung-Kuei refused; as a result, those 'advanced units' got the reward of sending delegates to Beijing to meet Mao, while he was left behind. 'One of the cadres tried to reason with me. He said, "You shouldn't be so disgruntled. Those units have achieved things, that's why they were chosen." He was a member of the old Party committee. I said, "It's all false". "Don't say that", he said. "You'll mess things up." I knew him well, so I said, "Well, I'm only telling you. Don't tell anyone else."' (Hinton, 1983, p. 236).

How far the official believed the claims of the advanced units is not clear from this story. Sometimes, however, the truth was deliberately hidden from cadres. The East Wind commune received a directive to start a 10 000 pig farm. There were few pigs in the area and nobody knew much about raising them, so the directive was ignored, until a high level provincial inspection team was announced as due, and the commune's Party Secretary instructed Long Bow village to create 'something that resembled a pig farm ... before six the next morning'. The villagers built and decorated a great arch and called it the Great Leap Gate. When the inspection team drove through the area the next morning, '"This," said Chia, [Party Secretary of the commune] with a grand sweep of his hand, ... "is the entrance to our 10,000-pig farm." The truck did not slow down, not to mention stop. Nobody apparently even thought of getting down to walk through the

archway to see what might be behind it. They accepted Chia at his word and disappeared down the highway in a cloud of dust...' (Hinton, 1983, p. 244).

Long Bow's claims of success, including this remarkable example of Potemkin enterprise, eventually rebounded. Late in 1958, the authorities asked for an additional 30 000 catties of grain above the original quota; after much bargaining, Long Bow bridgade leaders agreed to sell 15 000 catties, but when they calculated how much they would need at home before the harvest they found they were going to be short. ' "In the end they had to send us 40 000 catties," said Hsin-fa [a veteran village cadre]. "They couldn't let us eat less *per capita* than the year before, so they had to send back 40 000. At first they didn't believe there was no more grain here. But later, when it became clear that we didn't have enough to eat, they gave the grain back." ' (Hinton, 1983, p. 247–8). Thus, in the year of bumper harvests, the brigade could not meet its food needs and fulfil even the original state quota.

Even within communes, problems of reporting were not absent. In 1959, thirteen out of thirty-three brigades in Yangyi Commune under-reported their income (Crook and Crook, 1966, p. 101). The amounts hidden were not negligible: one brigade which had a gross income of 189 729 yuan in 1958, increased it by a further 34 271 yuan in 1959 but reported an increase of only 4000 yuan or so – keeping back what amounted to 16 per cent of the previous year's income.

Snow summed up the resultant confusion. 'Many communes that had made overclaims of output found themselves obliged to dig deeply into money reserves and grain set aside for consumption, in order to meet taxes and fill percentage quotas promised the state by terms of obligatory sales agreements. Later they had to admit their exaggerations and call on the state to return grain in the form of food relief. Accounts became chaotic, the government itself did not know the true situation within a wide margin, and the whole economy was thrown off balance and off schedule' (Snow, 1966, p. 174–5).

Another result of the inflation of figures was that, following the initial estimate of the 1958 harvest, at double that of 1957, economic planners directed a 5 per cent reduction in total area sown in 1959, and allocated a greater proportion of this area to industrial crops. By the time the second, reduced estimates became available it was too late to amend the plan. Grain output was reduced by 25 million tons because of the reduction in area sown, and this fact is sufficient for one authority to conclude that 'poor weather does not appear

relevant as an explanation of events in 1959. Planning errors appear to have been far more important' (Lardy, 1983, p. 42).

Grain procurement at the central level became, in any case, more difficult with Great Leap policies of decentralisation. Provinces were authorised to adjust targets for procurement and sales within their borders, with central government retaining control only over inter-provincial transfers. Government power to extract grain from the richer provinces diminished. Sichuan, for instance, believed that it had been over-milched in the mid-1950s; between 1953 and 1957, 7.45 million tons was exported from the province, and in 1957 alone the amount is said to have been 2.8 million tons (Donnithorne, 1985, p. 75). As a result, in 1954 for example, it has been calculated (Walker, 1984, p. 99) that average daily consumption in Sichuan fell to 1691 calories, or below the level of adequacy, even though production could have provided nearly 2200 calories per person. Indeed, the question of inter-provincial transfers of grain was a deeply unpopular one, and there is evidence throughout the 1950s of resentment on the part of the sending provinces, who were far from convinced that they had enough grain for themselves, let alone to spare: in a number of provinces, exports did make 'a significant difference to the living standards' (Walker, 1984, pp. 94 and 127). During the famine demands for additional transfers 'met with passive resistance' (Donnithorne, 1970, p. 18).

Because of the 'exaggeration wind' and the belief in bumper harvests, government procurement demands reached extraordinary heights, especially in 1959, when the state purchased grain at a rate not seen again until the 1980s. The 1959 grain procurement was 45.4 per cent of output; in 1960 the figure was 39.1 per cent. In 1962 it fell to 29.1 per cent and in later years did not exceed a quarter of output. Amid all the other activities of the Leap, cadres were too busy to assess the harvest for procurement, and as late as January 1959, the task of collecting the 1958 harvest share was only three-quarters fulfilled. Thus, when it was finally undertaken, it was carried out in great haste. When the 1959 harvest was gathered, the exaggeration wind was at full blast, and procurement was completed in record time, based only on estimates of the year's production (Bernstein, 1984, pp. 354–5). The assumption in both years was that with grain output breaking all records, there was plenty for the peasants, and plenty over. In some areas at least, peasants resisted unrealistic procurement demands with considerable vigour, hiding the grain in individual households and concealing it in underground stores which

were guarded with armed sentries (Walker, 1984, p. 142). It is not clear how much of the procured grain was resold to the peasants of grain-deficit areas, but one source states that in 1959 the net grain procurement (i.e. net of rural resales) exceeded 28 per cent (Bernstein, 1984, p. 341–2).

In addition, peasants were told to put part of the supposed harvest increases into local reserve granaries. Whereas in later years, no more than one per cent of the crop was to be so allocated, during the Leap 15–20 per cent of the harvest was set aside for local reserves. Local self-sufficiency for products like grain which took up much space in transport was even encouraged, partly because transport was dislocated by the needs of the iron and steel campaign, and also by military movements associated with the bombing of Quemoy and the revolt in Tibet, and, later, the war with India. The quantity of grain crossing provincial boundaries, around 10 per cent of procurement between 1954 and 1957, was reduced to some 7.5 per cent in 1958.

5 The Extent of the Famine

THE NATIONAL PICTURE

The publication of time series of statistics from China has at last made possible an attempt to examine the extent of the famine of 1959–61 (State Statistical Bureau, 1983). This source is used throughout this chapter, except where otherwise indicated, as it provides the first official documentation of the period. Its limitations were discussed in Chapter 1.

While there has been no year since 1949 in which less than 8 million hectares of land suffered from natural disasters, and most years have seen some 20–30 million hectares hit, the period 1959–61 shows disaster on a much larger scale.

Table 5.1 Areas of Natural Disaster, China 1957–64 (million hectares)

Year	*Total disaster area*	*Disaster affected area**	*Flood covered area*	*Flood affected area**	*Drought covered area*	*Drought affected area**
1957	29.2	15.0	8.0	6.0	17.2	7.4
1958	31.0	7.8	4.2	1.4	22.4	5.0
1959	44.6	13.7	4.8	1.8	33.8	11.2
1960	65.5	25.0	10.2	5.0	38.1	16.1
1961	61.8	28.8	8.9	5.4	37.9	18.7
1962	37.2	16.7	9.8	6.3	20.8	8.7
1963	32.2	20.0	14.1	10.5	16.9	9.0
1964	21.6	12.6	14.9	10.0	4.2	1.4

Notes: The areas covered or affected by drought and flood do not necessarily equal the totals, which also include damage from frost, typhoons and hailstorms

*Disaster affected areas are those in which crop production was reduced by 30 per cent compared with normal years.

SOURCE: State Statistical Bureau, 1983.

The harvest of 1959, estimated in terms of grain output of 170 million tons, was poor but not fatally so. Output fell further in 1960 and 1961, to 143 and 147 million tons respectively, and still remained below the poor 1959 harvest even in 1962. As in the past, not all of China was affected. A glance at the map in Fig. 5.1 makes apparent the broad pattern of damage due to natural disasters in 1960.

The entire eastern side of China – in which the vast majority of the

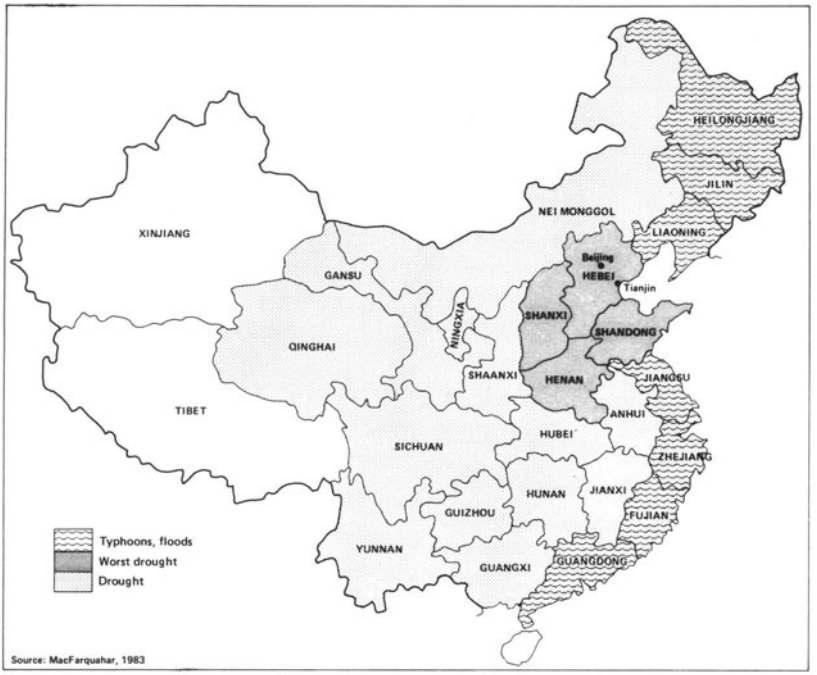


Figure 5.1 Provinces Affected by Drought and Floods, China 1960

country's population lives – was severely affected, either by the worst drought (in much of the wheat belt traditionally vulnerable to famine) or by a combination of floods and drought. In 1961 the situation was almost as bad. The provincial distribution of the famine is discussed later in this chapter; here, we shall look at the national picture. The total sown area of farm crops declined, and in 1959 and 1960, before the realities of the situation became apparent, so too did the proportion given over to grain.

The average unit area yield also declined; there are no figures for the worst years, but in 1962 it was only 690 kilograms per hectare for wheat, compared to 855 in 1957, and 2340 kilograms per hectare for rice, compared to 2693 in 1957. One reason for the decline was a lack of organic fertiliser. Manure from hogs had peaked in 1958 at 256 million metric tons and it fell to 169 million in 1960, while that from draught animals declined from 524 to 490 million metric tons (Hsu, 1982, p. 54). Well before the famine, the shortage of draught animals in northern and central China had already led to problems in

Table 5.2 Total Sown Area of Farm Crops, China 1957–64

Year	*Total sown area* (million mu)	*Grain to total sown area* (%)	*Industrial crops to total sown area* (%)
1957	2358.7	85	9.2
1958	2279.9	84	9.1
1959	2136.1	81.5	9.5
1960	2258.6	81.3	8.6
1961	2148.2	84.8	6.5
1962	2103.4	86.7	6.3
1963	2103.2	86.1	7.3
1964	2153.0	85.1	8.4

SOURCE: State Statistical Bureau, 1983.

extending the areas of double-cropping and even, in extreme circumstances, to the abandonment of arable land. During the period 1959–61, the still greater declines meant that weakened peasants were often unable to work the land. Compared with the 'normal' year of 1957 when total grain output was 195 million tons, output in 1960 and 1961 was reduced by a quarter. Over the whole period between 1959 and 1963, grain output was significantly below that of 1957. This was the more significant because it has been calculated that, on average during the 1950s, the total potential grain surpluses only exceeded the total potential regional deficits by a very small margin of just under a million tons (Walker, 1984, p. 27). Other crops were also badly affected, largely from 1961, as more resources were turned over to the vital grain.

Output of tea, for example, declined from an average of 112 000

Table 5.3 China's Grain Output, 1958–64

Year	*Total grain* (million tons)	*Grain per head* (kg)
1958	200.0	303
1959	170.0	253
1960	143.5	217
1961	147.5	223
1962	160.0	238
1963	170.0	246
1964	197.5	266

SOURCE: State Statistical Bureau, 1983.

tons between 1955 and 1957 to 79 000 tons between 1959 and 1963, while oil-bearing crops were reduced from 4.7 million tons to less than 1.8 million. The output of pork, beef and mutton was reduced to less than half. The area sown to cotton declined by a third in 1961 and 1962. Very striking are the figures for afforested areas, which show a reduction from 4355 thousand hectares in 1957 to 1441 thousand in 1961 and 1199 thousand in 1962.

Other indicators of the impact of famine on the economy are provided by what the Chinese call the 'total product of society' – the sum of the gross output value of industry, agriculture, construction, transport, post and telecommunications and commerce (Li Chengrui, 1984, p. 7). The total product fell by a fifth between 1960 and 1961 and it did not recover its previous levels until 1964. Declines were contributed first by agriculture, and then from the other sectors from 1961 onwards as reserves dwindled and funds had to be allocated to grain imports.

Transport increased its share of total output by a quarter in 1959 and still more in 1960, in part reflecting efforts to redistribute supplies. There was a 16 per cent increase in the daily average number of grain wagons, for example, between 1959 and 1961, as compared with 1955–57. Freight traffic on the railways doubled between 1957 and 1959 and increased still further in 1960. In 1961 however it returned to normal. Road freight also peaked in 1960, at twice its 1957 level. Air freight showed an even more dramatic increase, exceeding its 1957 level by four times in 1960. Some of these increases probably resulted from military traffic due to China's worsening international situation, and particularly the war with India. However, at least part of the increase can be attributed to intensified efforts to move food and medical supplies around the country. This was still not an easy matter; although the length of highways grew by a factor of six in the first ten years of the People's Republic, their quality remained variable. The length of navigable waterways had more than doubled during the decade, and was to peak between 1959 and 1962, while railway networks had a slower rate of growth, with a third more line in 1959. Even without grain carriage, however, the Chinese railways were 'the most heavily used system of any major nation' (Perkins, 1969, p. 160). Such increases were far from sufficient to solve the chronic problem of communications in this vast country.

China's exports declined by a third between 1959 and 1961, largely

as the result of a decline in agricultural exports, especially grain, according to Eckstein (1962, p. 20). More recent official Chinese figures suggest the fall was even larger, at 45 per cent. The volume of grain exports is still not entirely clear. Before the recent release of Chinese data, Donnithorne (1970, p. 34) and Surls (1978, p. 655) had broadly comparable figures for grain exports which indicated that they fell by half in 1961–62; these are however generally very different from, and much lower than, those of Walker (1984) as well as those recently published by the Chinese for cereal exports. The various figures are given in Table 5.4; those of Walker, and the official Chinese figures, also suggest falls of at least half.

That grain did continue to be exported during both 1959 and 1960 may seem strange. It was, in all probability, the result of two factors. The first was the statistical chaos, and a residual belief in the high claims for grain output which had been put forward during 1958 and 1959, and which led senior officials to believe that the grain for export did exist. The second was that most of the exported grain went to Russia, in payment for aid. Back in 1950, the Chinese had obtained credits for the sum of US$ 300 million and, during the Korean war, the Soviets extended considerable military assistance to the Chinese, all of which had to be paid for in full (Rodzinski, 1984, p. 396). As tensions between the two countries increased, China came under considerable pressure to fulfil her promises of repayment, especially as the harvests in the Soviet Union, too, were extremely poor (Millis, 1984, p. 301).

Meanwhile, the increasing shortage forced the government to turn to imports. The official figures clearly indicate not only the massive increase in cereal imports from 1961, but the increasing proportion which was taken up by wheat. Surls (1978, p. 657) estimated that grain purchases accounted for 26 per cent of foreign imports and that between 1961 and 1964 grain imports accounted for over 50 per cent of the hard currency leaving the country. Given that his wheat estimates are reasonably close to official figures, it seems probable that these calculations, too, are approximately correct. However, he also pointed out that net grain imports in the early 1960s amounted to no more than 6–7 kilograms of grain *per capita* (ibid., p. 658); the official figures would indicate that the amount was even smaller. Most of this grain went to the cities, because it was easier and cheaper to import it than to move it from the rural areas of China (Perkins, 1969, p. 160).

Table 5.4 China's Grain Imports and Exports by Volume, 1959–62

	(thousand metric tons)					
	1958	*1959*	*1960*	*1961*	*1962*	*1963*
(a) Donnithorne (1970, p. 34) estimates						
Imports						
wheat	127.1	–	–	2622.5	4419.1	4394.0
rice[1]	11.7	–	28.3	62.4	4.7	97.1
barley	–	–	–	1099.4	486.6	25.0
maize	30.7	0.2	–	44.3	491.2	13.4
rye	–	–	–	100.1	246.9	–
oats	–	–	–	65.3	47.4	26.9
other	–	–	–	–	23.5	–
flour[2]	0.6	0.3	0.4	450.8	279.9	0.9
Total imports	160.1	0.5	28.7	4444.8	5999.3	4577.3
Exports						
wheat	0.5	157.6	112.3	121.4	89.1	109.9
rice[1]	1265.1	1661.1	1153.3	445.9	573.2	637.6
maize	15.7	92.4	70.9	30.3	0.8	109.6
Total exports[3]	1301.9	1967.4	1396.6	595.5	667.5	858.8
Net						
imports				3849.3	5331.6	3696.5
exports	1141.8	1966.9	1367.9			
(b) Surls (1978, p. 655) estimates						
Imports						
wheat[4]	127.0	9.0	–	4093.0	3957.0	5455.0
coarse grains	31.0	–	–	1446.0	1160.0	65.0
Total imports[5]	170.0	9.0	28.0	5601.0	5122.0	5617.0
Exports						
rice[6]	1265.0	1567.0	1174.0	440.0	578.0	640.0
coarse grains	33.0	139.0	132.0	33.0	1.0	112.0
Total exports[7]	1299.0	1864.0	1478.0	598.0	668.0	862.0
Net						
imports				5003.0	4454.0	4755.0
exports	1129.0	1855.0	1450.0			
(c) Walker (1984, p. 163) estimates						
Imports						
wheat	127.0	9.0	–	4093.0	3957.0	5455.0
coarse grains	31.0	–	–	1446.0	1160.0	65.0
rice[8]	17.0	–	40.0	89.0	7.0	139.0
Total imports	175.0	9.0	40.0	5628.0	5124.0	5659.0
Exports						
rice[8]	1807.0	2239.0	1667.0	634.0	854.0	914.0
soya[9]	961.0	1343.0	1176.0	343.0	350.0	357.0
other[10]	167.0	380.0	428.0	191.0	149.0	181.0
Total exports	2395.0	3962.0	3281.0	1168.0	1353.0	1452.0

Table 5.4 continued

	(thousand metric tons)					
	1958	*1959*	*1960*	*1961*	*1962*	*1963*
Net						
imports				4460.0	3771.0	4207.0
exports	2760.0	3953.0	3241.0			
(d) State Statistical Bureau (1984, pp. 422, 438)						
Imports						
cereals (total)	223.5	2.0	66.3	5809.7	4923.0	5952.0
of which wheat	148.3	–	38.7	3881.7	3535.6	5587.7
Exports						
cereals	2883.4	4157.5	2720.4	1355.0	1030.9	1490.1
Net						
imports				4454.7	3892.1	4461.9
exports	2659.9	4155.5	2654.1			

Notes: 1 milled equivalent
2 wheat, flour, grain equivalent
3 includes barley, rye, oats and wheat flour
4 includes wheat flour converted to grain equivalent
5 includes small amount of rice imports
6 milled weight
7 includes small amount of wheat exports
8 whole grain equivalent
9 includes soya bean oil in bean equivalent
10 coarse grain and wheat

EFFECTS ON THE POPULATION

Han Suyin observed the early signs of distress in 1959. 'I walked the streets and noted the first faint signs of tension, lassitude. People were thinner, they bustled less. Rations were being cut. There was a lot of cabbage being sold, but little else. The waiter in a restaurant reproved me for leaving some grains of rice at the bottom of my rice bowl' (Han Suyin, 1980, p. 242). Shanghai, which suffered less during the famine than most places because of its level of industrialisation and because its own suburban communes were relatively unharmed by the floods, had no apparent food shortages. 'But there were some itinerant peddlars on the streets selling crab claws and small dumplings, and the cadres turned a blind eye to this individual enterprise' (ibid., p. 247). In general, however, at this

stage of food shortages it seems that the cities were under a greater strain than the rural areas. 'Third Brother came to see me. He told me that because of the food situation, "undesirables", that is, people with no occupation, were having to leave the city and be resettled in villages. The villages ate much better; they ate what they produced. It was the surplus that fed the cities. "There isn't much surplus this year", said Third Brother' (ibid., p. 253). As long as there were any surpluses, 'transport corps', organised by individual schools, factories or other units, made forays into the countryside to buy them up. Some units even leased fields in the communes, and entered into direct contracts with the communes to supply food and to raise pigs: officially, such dealings were ignored (ibid., p. 288).

Feeding the cities was made more difficult by the huge increase in the number of urban dwellers. Between 1957 and 1961, the urban population increased by 30 million, or a third. Much of this increase came in 1958, to meet the industrial expansion of the Leap. The remainder, as is discussed in the next chapter, was probably due to peasants escaping the famine. China's top Party official dealing with economic matters, Chen Yun, pointed out the problems of grain procurement for the extra numbers. The grain could only come from the high-yield areas but, he observed, while it was possible to make peasants in those areas subsist on 300 catties of unhusked grain for a year or so, if the demands were continued longer-term, it destroyed peasant incentives and turned high-yield areas into deficit areas. Chen said this had already happened in Heilongjiang and pointed to areas in Zhejiang and Jiangsu as being under strain (Bernstein, 1984, p. 352).

A year later, when Han Suyin returned to China, scarcity had become more evident. 'In the market, row upon row of small shops with nothing in them but a passive, seated salesman and empty shelves. No nails, no string, no shoes, no glasses, no ... everywhere people with their heads well within their shoulders and scarcely lifting their feet went from store to store. No buttons, no needles, no thread, no kettles, no saucepans, no...' (Han Suyin, 1980, p. 286).

City rations in 1960, she reported, varied according to category of work. The high intelligentsia got more sugar, fats and meat in their ration of around 2000 plus calories a day. Average intellectuals, such as schoolteachers, got less fat and an average of 1800 calories. Workers in heavy industry averaged around 2500 calories, including a monthly average of 17.5–20 kilos of rice, while ordinary workers got around 15 kilos of rice. Students received up to 2000 calories a day,

with more protein and less carbohydrates; office workers some 1500 to 1800 calories including 13–15 kilos of rice a month. The worst off were the housewives, unless they were pregnant workers (who got a worker's rations). Ordinary housewives received 1200 calories a day, or even less. Exact quotas varied from place to place. In general, in 1960, the north was the worst off: 'I began to see in Beijing and Xian and Taiyuan cases of beriberi on the street, in the queues waiting at the hospital gates. The swollen faces were obvious' (ibid., p. 287). Areas in the south and west did not at first suffer so badly. Sandhead residents told Mosher that in 1960 their rice rations were cut and 'then cut again, until finally rice disappeared altogether from their diet and they had to live on sweet potatoes. But soon these were gone as well, after which they had only what they could scavenge from the countryside, and they were eating field mice and wild grasses. The people were consumed by their own hunger and before the spring of 1961 not a few families had buried an elder in a simple grave or an infant in an unmarked one' (Mosher, 1983, p. 50).

Edgar Snow, who also revisited China in 1960, described his conversation with an old pedicab driver, previously a rickshaw puller (Snow, 1966, p. 26). The old man reported that things were 'so-so'; he now had a wife (which he could not afford before Liberation) and she worked, while their daughter worked in a nursery (' "Whoever heard of a nursery in the old days!" ') But. . . ' "If only we had more to eat; the imperialists –" he muttered. . .' Then, discovering Snow was an American, he said no more. Snow also noted that the peasants ate better than city dwellers, having an 'ample supply of vegetables in addition to the basic grain rations and bonuses in accordance with work performed' (Snow, 1966, p. 541).

However, his over-all estimate of the extent of the famine was, as we now know, grossly optimistic. The food shortage, he said, was severe; staple foods were closely rationed and well below Western standards of good nourishment; but there was no visible starvation and the population was in good health and working condition.

One reason for his optimism has already been touched on. He had last seen China at a time when it was in the middle of a long and terrible war, suffering galloping inflation and a collapsing government. The gains which had been achieved from 1949 were so evident that it seems he found it difficult to recognise the subtle changes which could have warned him that conditions were deteriorating, and which were so visible to Han Suyin. Perhaps this is best summed up in an 'off the record' conversation he had with a 'Very High Official'.

Snow said it seemed obvious to him that China was no longer a backward country. ' "You are mistaken.... It is true that China is in a better condition than it was under Chiang Kai-shek, but that is not saying much. The old China could hardly have been worse; some improvement was inevitable...." ' (Snow, 1966, p. 15). In addition, pride and hostility kept the Chinese from discussing the famine with outsiders, especially with 'imperialists'.

He was, probably, also over-reacting to the extraordinary claims of disaster which were being made by foreigners who, in the atmosphere of the Cold War, saw famine as retribution for communism, and mass starvation as the only chance that China's people would turn (as so often in the past) on their leaders. An English Member of Parliament, Sir Cyril Osborne, returned from China in 1960 with the news that the average Chinese was living on a diet of no more than 600 calories; this was gleefully published (a year later) by Joseph Alsop who calculated that this meant a weight loss of 20 lb a month. As Snow with equal enjoyment deduced, had this been true the entire population of China would have vanished from the earth two or three months before Mr Alsop's column appeared (Snow, 1966, p. 614).

Joseph Alsop was invited to expand on his claims in the *China Quarterly*. He argued that since the Great Leap, the country had been caught in a remorselessly descending spiral which was, in 1962, approaching such catastrophic levels that some sort of collapse was almost inevitable, since there were limits to the hardship which any government could impose on the governed. Only a good harvest, he suggested, could save the regime (Alsop, 1962, pp. 21–37). A number of scholars were, in turn, invited to comment on his paper and several of them discussed the accounts of the famine given by the influx of refugees – mainly from Guangdong province – to Hong Kong. From those reports it was estimated that daily average consumption in the winter of 1961–2 had been between 1600 and 1800 calories (Eckstein, 1962, p. 21 and Robertson, 1962, p. 43). However, as one scholar noted, 'abstract figures, even if correct, matter little: a human being is hardly able to eat every day throughout the year even sweet potatoes, in themselves a tasty food, or even rice, without cooking oil...' (La Dany, 1962, p. 32). Several of the writers referred to medical indications of famine:

> Collapsed wombs and missed menstrual periods are common among mainland women. Starvation oedema varies, according to

> intelligence reports, from a dreadful low of 20 per cent in some areas to 60 per cent in others. There are even stories about some parts of China where this grisly affliction of swollen bellies has reached 90 per cent saturation. Hepatitis is on the gallop, coursing even through hospitals where sick doctors lurch about trying to take care of sicker patients. (MacLeish, 1962, p. 40)

Another report gave some indication of the timing of the crisis in southern China: 'Under-nourishment in Guangdong first became widely apparent in the winter of 1960–61 ... Reports of this illness [oedema] reached a peak in the spring of 1961, and even this spring [1962] it appears to have been more prevalent than in 1959' (Robertson, 1962, p. 44). Refugees in the May 1962 exodus to Hong Kong, Robertson noted, did not however show signs of clinical malnourishment (ibid., p. 43). As many of the refugees had travelled quite long distances on foot, however, it may be argued that they were a select group: those who were physically capable of undertaking the journey.

Interestingly enough, Snow's own estimates for grain production during the crisis years were very near the truth. He calculated the 1958 grain crop at 200 000 000 tons – the figure now reported by the Chinese (see Table 5.3) – and the 1960 crop as 152 000 000 tons, only 9 million tons above the official figure. He recognised that such a low figure implied very low *per capita* rations, but seems to have had more faith in the nation's distribution capability than was justified. Quoting one official who reported that the average minimum grain ration was 27.5 lb (about 1500 calories) though in some areas it might temporarily fall below that figure, the significance of the word 'average' seems to have escaped him (Snow, 1966, p. 266). He also assumed that this diet was considerably supplemented by the increased use of private plots, private poultry and pig raising, cultivation of marginal land for fodder and human consumption, as well as by the switch from cash crop acreage to food production. Unfortunately however the floods and droughts were no respecters of private or marginal land and yields from such sources, though undoubtedly essential, were far from sufficient to offset the grain losses. Private plots increased their contribution to the gross agricultural output value from an average of around 4.5 per cent in the years up to and including 1957, to 7.7 per cent in 1960 and 7.3 per cent in 1961–62, but this was hardly enough to ensure adequate nutrition.

REGIONAL VARIATIONS

Precisely how much variation 'average' figures in fact hid remains unknown. There are, however, some significant clues to inequalities in grain self-sufficiency within regions of the country. During the 1950s, according to the economist Chen Yun, there were about 50 million members of grain-deficit households (due to low income, a large number of dependents and so on) and an average of about 40 million household members who would be subject to temporary grain shortfalls caused by adverse weather or other crop failures. In addition, about 30 to 40 million household members regularly bought grain because they specialised in other crops (Lardy, 1983, p. 32). Thus, to the 50 million people who were chronically in deficit, one must add the 30–40 million who needed to buy grain and who could suffer if grain were in short supply or if their crops failed so that they had little to pay for such grain as could be procured. This provides a minimum number of those 'at risk' from famine: about one in eight of the population. To those must be added the number directly affected by disaster – 40 million in a normal year. The years of 1959–61 were not normal and so the crucial question is how many additional people were at risk and from which categories and provinces did they come?

There is a detailed study of food grain procurement and consumption in China during the 1950s by Walker (1984). Between 1952 and 1957, it establishes that the grain imbalance between north and south China worsened. Potential deficits in the North region (Henan, Hebei, Shanxi and Shandong) increased, while the potential surpluses of the North-East (Heilongjiang, Jilin and Liaoning) and the North-West (Nei Monggol, Gansu, Shaanxi, Xinjiang and Qinghai) were reduced.

Shanxi and Shandong were among the five provinces which ceased to export grain during the 1950s, together with Guangxi, Fujian and Guangdong in the south. Heilongjiang and Jilin reduced their exports by 56 per cent between 1953 and 1957, turning the North-East into a net deficit region. Imports by the North region rose throughout the period, and by 1957 were 42 per cent higher than in 1952; they could no longer be met by the surplus from the North-West and Manchuria. Thus increasingly large amounts of grain had to be transferred from the South-West, and from Hunan, Jiangxi and Hubei in the centre. This not only placed a heavy burden on the limited transport facilities but the high cost of moving grain involved the government in major financial subsidies to ensure an acceptable price.

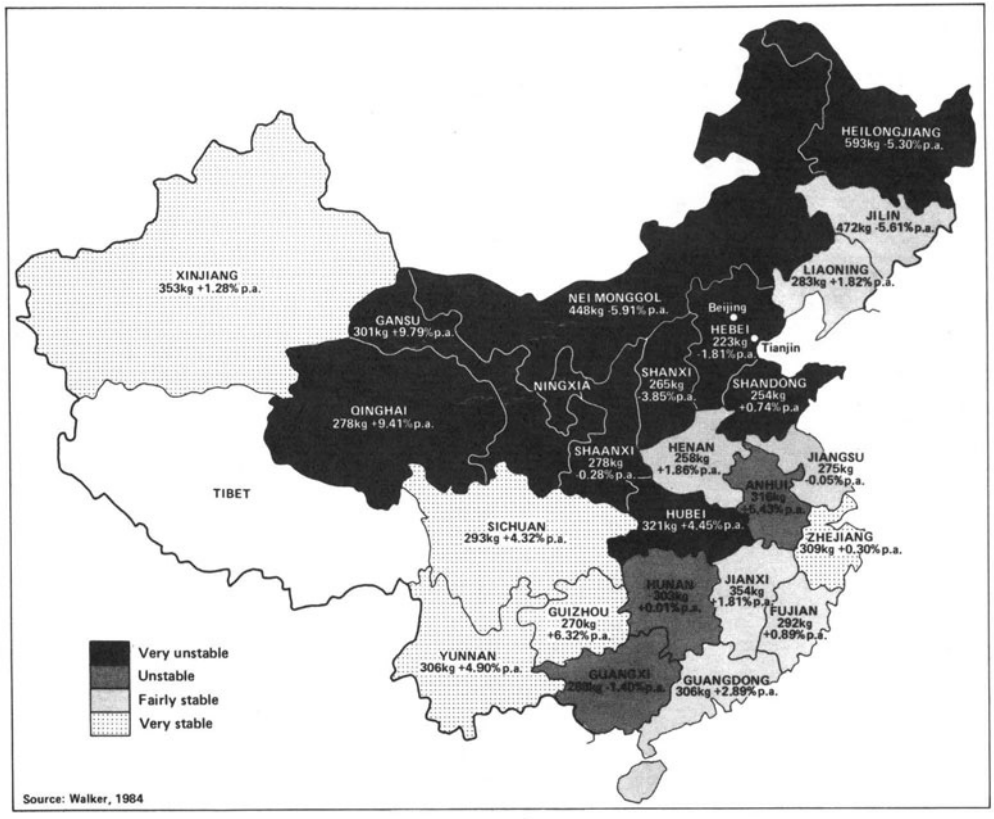


Figure 5.2 Levels of Output (kg) per Head, Growth of Output (%) per Head, and Output Stability, China 1952–57

The period 1952–57 contained two good years, two bad years and two average years in terms of climatic conditions, but analysis of the provincial figures shows considerable differences in the vulnerability of particular provinces to output fluctuations. In Anhui and Jiangsu, output fluctuated every year, while in the south-western provinces it maintained a steady upward trend. Individual years of very wide fluctuation are found in Nei Monggol, Qinghai, Hubei and Anhui, while in Shandong and Hebei annual fluctuations of output resulted in levels of *per capita* output which were well below self-sufficiency.

The combination of declining grain availability in the north of China, and of high vulnerability to natural disaster, serves further to identify the provinces most at risk. Looking at grain consumption, as opposed to production, during the 1950s, consumption at provincial level was above the minimum level identified by Walker as adequate in 20 of the 24 provinces, but poor in Henan, Hebei and Shanxi, and poor in three of five years in Gansu. In some years, poor levels of consumption were due less to declines in output than to government attempts to procure grain for other areas; Henan, Shanxi, Nei Monggol, Gansu, Guizhou and Sichuan all suffered as a result of high procurements in two or more of the years.

Even provincial-level data, however, conceal a wide range of differences. Walker compiled figures for inequality of grain output per head at Special District level in eleven provinces in 1957 (Walker, 1984, pp. 6–10). There were 180 Special Districts in 1957, each with an average of around 3 million rural people, though some had as few as 2 million and others as many as 6–8 million. The most uniformly poor province was Hebei, with eight out of its ten Special Districts below self-sufficiency, involving a population of almost 32 million. Very high inequalities, by contrast, were found in Jiangsu and Shaanxi, with average output per head of rural population in the richest districts of the two provinces being almost three times that in the poorest. There were also quite high inequalities in Hebei, Sichuan and Guangdong, with the richest districts having twice the output of the poorest. Using Walker's definition of 'self-sufficiency' as output of 275 kilograms per head of rural population, a number of very poor districts can be identified, predominantly in Shaanxi, Hebei, Jiangsu and Sichuan.

Below the Special District level, he has data for counties in Shandong and Sichuan (ibid., pp. 10–21). These reveal that in Shandong, despite the fairly small spread around the average at district level, there were 38 grain-deficit counties among seven of the

Table 5.5 Inequalities of Grain Output per Head of Rural Population at the Special District Level in Eleven Provinces of China, 1952–57

Province	*Special district*	*Average rural population* (million)	*Average grain output per head of rural population* (kg)	*Provincial average grain output per head of rural population* (kg)
Gansu	Yinch'uan	0.70	465	340
	Changyeh	2.08	400	
	P'ingliang	2.05	392	
	Tingshi	2.21	384	
	Wutu	0.89	341	
	Kan-nan	0.30	240*	
Shaanxi	Hanchong	2.12	363	327
	Yenan	0.79	270*	
	Yulin	1.45	122*	
Hebei	T'angshan	4.28	407	245
	Ch'engte	1.92	342	
	Ts'anghsien	4.60	269*	
	T'unghsien	3.01	266*	
	Tientsin	3.21	265*	
	Changchiak'ou	3.15	256*	
	Paoting	5.65	226*	
	Hantan	3.32	212*	
	Shihchiachuang	5.80	207*	
	Hsingt'ai	3.05	175*	
Shanxi	Ch'angchih	2.61	440	302
	Chin-nan	3.46	298	
	Ying-pei	1.50	273*	
	Yutze	3.10	262*	
Shandong	Laiyang	7.40	356	272
	Changwei	7.81	332	
	Tsining	4.68	331	
	Taian	4.79	303	
	Hweimin	6.23	288	
	Liaoch'eng	6.71	279	
	Hotseh	4.83	278	
	Linyi	6.33	267*	
Hunan	Ch'angte	6.14	392	334
	Hsiangt'an	6.81	379	
	Hsiang-nan	7.82	333	
	Ch'ienyang	2.34	309	
	Hsianghsi	1.59	281	
	Shaoyang	5.73	263*	
Anhui	Wuhu	5.0	500	348
	Anking	4.58	368	
	Fouyang	7.60	257*	

Province	*Special district*	*Average rural population* (million)	*Average grain output per head of rural population* (kg)	*Provincial average grain output per head of rural population* (kg)
Jiangsu	Soochow	5.11	486	314
	Sunkiang	2.30	468	
	Yangchow	6.58	296	
	Yench'eng	3.99	286	
	Hsuchow	4.65	254*	
	Nant'ung	5.42	206*	
	Hwaiyin	5.23	183*	
Sichuan	Wenchiang	4.63	435	320
	Chiangchin	6.02	373	
	Neichiang	5.32	337	
	Suining	6.75	266*	
	Yaan	0.89	242*	
	Hsichiang	1.29	203*	
	Nanch'ung	8.10	191*	
Fujian	Nanp'ing	1.63	551	356
	Lungch'i	1.50	529	
	Fuan	1.65	338	
	Minhou	1.76	321	
	Chinchiang	4.37	300	
	Lungyen	2.04	282	
Guangdong	Fatshan	4.18	487	356
	Swatow	6.10	384	
	Hainan	2.50	284	
	'N Kwangtung' incl. Chaokuan	3.50	226*	

Notes: Walker's spelling of special districts
*Special districts with less than self-sufficiency in grain.
SOURCE: Walker, 1984.

eight Special Districts; the majority, however, were in four districts. Most concentrated on the growing of cotton or peanuts, but specialisation in non-grain crops was not the only explanation of low grain output: grain yields per hectare in the deficit counties were also low. In all they accounted for 14.9 million rural inhabitants. The Sichuan counties analysed also show a very wide range of *per capita* output, with a deficit in 45 counties involving 19.6 million rural people, or more than half the provincial total. In three Special Districts of Sichuan alone, however, there were counties which produced a total surplus of a million tons of grain a year.

An analysis by Lardy (1983, pp. 172–85) of chronic poverty in China in the latter part of the 1970s shows that chronic poverty was

concentrated geographically; 65 per cent of the poor counties in 1977–79 were to be found in five provinces. More specifically, rural poverty was concentrated in four geographical regions – the North China Plain (71 counties); Yunnan and Guizhou in the South-West (66 counties), the North-west Loess Plateau (forty-eight counties), and the south-east coast of Fujian (11 counties). These areas made up almost 90 per cent of all poor counties. The late 1970s are, of course, not the late 1950s, and one cannot assume that chronic poverty league tables would have been the same in the earlier period. Nevertheless, because Lardy traces much of the current poverty of these areas to mismanagement of agriculture – in particular, to post-famine insistence on grain production at the expense of more appropriate crops – it is possible to examine, through them, what happened to the population of some traditionally poor or grain-buying areas.

The poor standing of the north-west part of the North China Plain seems to stem from the famine years. During the 1950s the area was an important cotton producer and many of its counties were famous for their high incomes. During the crisis, however, cotton production fell sharply – in some counties, to less than 10 per cent of its former level – as the land was turned over to the production of grain which the peasants could no longer buy. 'Large numbers of peasants survived the early 1960s by travelling to areas south of the Yellow River to barter their old clothes for grain' (Lardy, 1983, p. 177).

Another part of the North China Plain, Huaibei in northern Anhui, has always been poor and continues to be so. Huaibei suffers almost routinely from both floods and droughts and its general backwardness contributes to slow changes. Although one of the government's most ambitious irrigation schemes in the First Five Year Plan centred on the Huai river, the share of cultivated land which was irrigated in that area rose from less than 1 per cent in 1952 to only about 3 per cent in 1957. By comparison, national figures for the two years were 20 and 31 per cent. The demographic impact of the famine on Anhui province is discussed in the next chapter. It is safe to assume that the bulk of the famine deaths in Anhui took place in Huaibei plain, existing, as it does, always on the margin of life.

A possible example of how in Anhui cash crops gave way to grain is given by Bernstein (1984, p. 358). From the procurement figures for two counties, one a producer of tea, the other of cotton, it is apparent that both suffered extraordinarily high increases in grain procurement in 1959; well above the increase demanded of them in 1958.

While this may mean merely that the state was desperately anxious to increase its grain stocks, it also suggests that both counties were extending their grain production, rather than continuing to concentrate on increased production of cash crops. However, too much significance should not be read into these figures: in both years total procurement of cash crops and grain in the two counties was set so far above the provincial average as to make one wonder whether they had made claims of output which were even more inflated than most.

Table 5.6 Percentage Increases in Anhui Procurements, 1957–58

	1957	*1958*
Value of agricultural output, Anhui	21.6	16.5
Value of procurement, Anhui	17.0	16.5
Xiao county procurement:		
cotton	120.5	29.5
grain	21.6	61.0
Jimen county procurement:		
tea	41.6	12.5
grain	12.5	20.8

SOURCE: Bernstein, 1984.

The Loess Plateau has always suffered from erratic and inadequate rain, but during the 1950s oilseed crops, animal husbandry and forestry contributed to reasonably high incomes. Some of the animals may have been destroyed during the conversion to communes; others undoubtedly were slaughtered during the bad years when the cost of feeding them became too high. As grain became less obtainable, more of the land – which was badly hit by the floods and droughts – was turned over to it, but many people died. Part of the cause of the mortality was in the distribution of emergency grain, for Lardy points out that within one county which had an above-national-average output in 1960, there was widespread starvation and, in Kuyuan County, a decline of population in 1960 (Lardy, 1983, pp. 182–3). The slaughter of draught animals intensified the difficulty of distribution.

The problems of the South-West are more varied and range from extreme environmental differences, and the existence of a large number of minority peoples, to poor transport and communications. In addition, the man/land ratio in Yunnan was among the worst in China (Fei and Chang, 1949, p. 11). During the 1950s, southern mountain areas like the Hsishuangpanna Thai Autonomous Area on the borders with Laos and Burma grew only around a third of the

grain they needed, and paid for the rest – produced in the province's plains – through sales of tea, shellac, tropical fruits and medicinal herbs. Such products were, during the bad years, in little demand. As a result, in 1962, less than half the area given to economic crops in 1957 was still being used for the same purpose (Lardy, 1983, p. 185). The very poor communication networks in this remote province probably meant that, during 1959–61, the grain which did exist never fully reached those in most need.

This analysis would seem to confirm that those living in areas which were either extremely poor, exceptionally vulnerable to climatic conditions, or which were grain-buying in exchange for their cash crops, were most vulnerable to the effects of the 1959–61 famine. Such areas are highly concentrated and this, in turn, would suggest that while the famine years implied shortages for all Chinese, real destitution and death may have been centred in a comparatively few geographical locations. To use Sen's terms, the poorest suffered a shift in their public policy entitlement as a result of the difficulties faced by the government in amassing enough grain to go round, and getting it to the more remote areas, while those dependent on cash-crops faced a decline in their trade entitlements as the value of their output fell in relation to the price of grain. At the same time, there was a direct entitlement failure for farmers in areas directly affected by the floods and droughts, whether producing cash-crops or grain, because of the reduced or non-existent crop.

However, the famine was not entirely confined to the poorer, more remote or cash-crop areas. As we saw earlier, a Chinese official cited the case of Heilongjiang as an area in which high yields had turned to deficit under the pressure of state procurement. An investigation in the early 1960s of 24 production brigades in twelve Heilongjiang counties showed very high rates of procurement – up to 80 and in one team 83 per cent of output. Cattle died, men became sick, and deaths occurred. Eventually the state had to make resales to the peasants, but this led to chaos in the commodity circulation system, transport difficulties, and waste. 'Resales could not have reached many villages in time' (Bernstein, 1984, p. 377). For the peasants in such areas, direct entitlement to food was reduced by official appropriation.

Other indications of famine areas came from the local press. The Shandong papers seem to have been particularly busy in publicising 'measures such as collecting "all edible and usable things that could be found locally"' (Bernstein, 1984, p. 357). Newspapers in Henan and Hunan also discussed the famine, though often claiming, in

1959–60, that record harvests had been achieved despite the areas being afflicted with severe disasters (ibid., p. 356). Some of the accounts of famine were published in an attempt to persuade peasants in better-off areas that procurements were really necessary, and that those in such areas should be contented with the parsimonious amounts of grain left to them, because the needs of their fellow-Chinese elsewhere were so much greater.

Another clue to the regional distribution of the famine comes from the annual figures for the numbers of draught animals between 1957 and the famine years. Both the over-all numbers of large animals, and the numbers of draught animals, reached their lowest point in 1961 but the fall in draught animals was almost 30 per cent, compared with an over-all decline of only 17 per cent. Much of the loss in both categories is probably accounted for by a 15 per cent decline to that year in the numbers of cattle and buffaloes – unfortunately, the two categories are not distinguished – as these made up by far the largest group of large animals in the country. The number of horses also fell by 15 per cent to their lowest point in 1961. Mules and donkeys, however, declined in every year through 1962 with the mule population cut by 23 per cent and the number of donkeys by 40 per cent. Camels, by contrast, increased in numbers slowly but steadily throughout the period (State Statistical Bureau, 1983, p. 176). This suggests that the south, west and far north-west of China, in which buffaloes, horses and camels were more common, suffered less than the remaining areas, and that the remaining areas were the ones in which the effect of the famine lasted longest.

All in all, the evidence is consistent for a concentration of the worst difficulties of the famine years in Anhui, Gansu, Guizhou, Henan, Hunan, Shandong, Shanxi and Shaanxi, and Yunnan, with parts of Sichuan and Heilongjiang also badly affected. Regional population figures – and particularly regional age structures – if published, would help in the production of a consolidated picture of the provincial pattern of the famine. Even allowing for the fact that not all sections of any province were equally vulnerable, it is clear that the crisis was more than a local or even regional one.

TIMING OF THE FAMINE

It seems that the cities were the first to feel the food shortage, which began there in the winter of 1958 when the normal winter shortages

were compounded by a lack of vegetables – suburban communes, normally supplying vegetables to the cities, had also taken part in the steel drives and other activities of the Great Leap Forward – and by the delays in organising city supplies from the 1958 harvest. The problem was compounded by the large influx of labour into the cities. The shortages put in jeopardy the industrial Great Leap, and Mao, at the Chengchow Conference, described the nation as a 'chessboard' in stressing the need to get back to a centralised system of grain distribution (MacFarquahar, 1983, p. 155).

The state remained convinced that somewhere in the countryside there was plenty of grain if only it could be procured. Urban conditions improved in 1959–60, with net procurement per head of about 353 kilograms, compared to the 228 per head in 1958–59. Mao's later admission that the previous efforts had been 'draining the pond to catch the fish', and the knowledge that production fell still further that year, make it clear why net procurement fell to 283 kilograms per head of urban population in 1960–61. Thus 1961 saw the reintroduction of imports on a large scale, and the first efforts to reduce the numbers of those who had flocked into urban areas. Imports accounted for some 14 per cent of all urban grain requirements, but they were not sufficient to prevent a second decline in 1961–62, to 238 kilograms *per capita* procured. Even in the following year, total procurement was still only 255 kilograms for each urban resident, below the levels of 1959–61.

In rural areas, the pattern of timing is more complicated. The wheat-growing area, and especially Liaoning, Shandong, Hebei and Anhui, experienced the first drought in 1958 (Walker, 1984, p. 134). Those provinces, together with Fujian, Guangxi and Guangdong, suffered significant declines in *per capita* production of grain in the same year. Because of the great expansion of potato production during 1958, the estimates of total output disguise the facts that increases in 'real' grain were much smaller, and in some cases the quantity of 'real' grain actually declined. The effect was to widen the gap between north and south grain production.

There were further droughts in the winter of 1958 and the spring of 1959, in the wheat-growing areas as well as many central and southern provinces. Estimated output for fourteen provinces, based on figures for grain sown areas, shows Shanxi, Henan, Shaanxi and Shandong joining the non-exporting provinces, together, and most seriously, with Sichuan. The North was worst affected (ibid., pp. 147–9). This perhaps explains why the grain available to the peasants

Table 5.7 Grain Availability per Head, China 1958–59 to 1960–63

Year	Output (million tons)	Net procurement ratio (%)	Grain per head of rural pop. (kg) KRW*	PK†	Net procurement per head of urban pop. (kg) KRW*	PK†
Average						
1953–57	181.6	15.3	290		300	
1958–59	200.0	13.6	311		228	
1959–60	170.0	28.0	223	219	380	353.4
1960–61	143.5	28.0	191	188	308	283.4
1961–62	147.5	17.5	225		274	238.4
1962–63	160.0	16.1	234		296	254.6

*Walker (1984) p. 162.
†Adapted from Walker. His *per capita* figures are based on population estimates for those years. I have re-calculated them on the basis of the official population totals for those years. Net procurement per head of urban population is also net of exports.

in 1958–59 was substantially less than that available in urban areas, as Table 5.7 shows.

One place where the failures of 1959 had unexpected effects was Long Bow in Shanxi. Despite a disastrous venture into a huge agricultural consolidation scheme, half-hearted attempts to plant crops without manure (which had been all used up by the new scheme) and spreading drought, together with a collapse of peasant morale after the Great Leap, the peasants earned a higher return per workday than they had ever done before, or were to do again for many years. The commune, to save something from disaster, gave the village the tasks of producing vegetables (because the village already had some wells and a few acres of irrigated gardens) and bricks, from the existing kiln. With new enterprises still expanding in 1959, the bricks were in great demand and Long Bow villagers earned money from both their production and transport. But vegetables, in short supply throughout the south-east Shanxi region, did even better:

> Eggplant that usually sold for 12 fen a catty in city markets brought 50 fen right in the field. Cabbages and turnips brought the same high price. Individual members resold the vegetables distributed to them in small lots at even higher prices. . . . Sellers usually weighed vegetables, but in 1959 neither buyer nor seller had time for that. Long Bow people simply piled their turnips, cabbages and

> eggplants on the ground and estimated the weight by the piles. 'This plot has 10,000 catties, that plot has 6,000'. Even though they always estimated high, never low, the buyers paid the price and hauled the goods away without asking too many questions. There were plenty of other buyers scouring the countryside looking for food in any form. Some approached the brigade through the 'back door' offering black market prices that far exceeded the public price. (Hinton, 1983, pp. 249–50)

It is clear from this account that south-east Shanxi in 1959 was desperately short of food, but that people still had reserves to pay for what was available. And that Long Bow could still find grain to buy in from its vegetable profits. The following year, the story was different. Severe drought throughout the area led to Long Bow having grain yields at 'little more than the pre-land reform level' (ibid., p. 249). It also reduced the vegetable supplies and by that time, in any case, it is probable that even had the villagers been prepared to sell, there were few left in the area who could buy.

Despite all this, as has been noted, procurement for the cities was seen as vital and, as was demonstrated in Table 5.7, the amount of grain made available to the urban areas far exceeded the amount left for the peasants. Among the sixteen provinces for which there are figures available, gross procurement was higher in 1959–60 than in any previous year.

It must be remembered that grain accounted for over 90 per cent of peasants' total calorie intake. Even if one ignores the figures for grain consumption net of feed, by making the – not entirely justified – assumption that in times of real shortage animals simply were not fed, it is clear that in Shanxi, Qinghai, Henan, Shaanxi and Sichuan, the calorie consumption was below – often drastically below – the 1500 level which Snow was told was 'average'. Shandong's average must disguise areas with below 1500-calorie consumption. A number of other provinces are also sufficiently 'marginal' for there to be a suspicion that there was real want in many areas.

It is likely that in late 1959 many rural areas were in a similar position to Shanxi, as it appears in Hinton's story above, with food running short either because of the lack of attention given to the harvest in 1958, or because of the poor 1959 harvest, or because of excessive procurements. But the peasants still probably had some reserves, or savings with which to buy at least something, or at least the majority did: though one wonders about the 50 million in chronic

Table 5.8 Grain Procurement and Consumption in Sixteen Provinces of China, 1959–60

Province	*Gross procurement in 1959* (million tons)	*Estimated grain consumption per head of rural population* (calories per day) Net of seed and feed	Net of seed only
North-East			
Heilongjiang	*c.*4.480	4111	4485
Jilin	2.573	1977	2180
North-West			
Nei Mongol	1.745	1601	1770
Gansu	1.269	1552	1871
Shaanxi	1.246	1179	1304
Xinjiang	0.962	1761	2486
Qinghai	0.250	1192	1287
North			
Henan	*c.*4.129	1192	1290
Shanxi	1.274	936	1035
Shandong	3.000	1458	1523
Centre			
Hunan	3.685	1904	1944
Hubei	2.813	1864	1930
East			
Anhui	3.749	1574	1635
Jiangsu	*c.*3.529	1544	1636
South-West			
Sichuan	7.187	1380	1457
South			
Guangdong	*c.*3.224	1551	1635

SOURCE: Walker, 1984, p. 152.

grain-deficit areas, and the 40 million who in any particular year including 1959 would have been vulnerable to local weather conditions. It seems to have been in 1960 and 1961, when the droughts and floods came and there were no reserves left, that the full impact of the famine was felt.

Indeed, there were quite large areas of China where, in early 1960, there was still no crisis. Yangyi commune in Hebei was in one such area: its 1959 harvest substantially exceeded that of 1958 and it was only in the spring of 1960 that it was apparent that the rains had failed. Desperate attempts were made to sink wells – even to a depth of 300 feet in the worst affected village, which would have been

entirely lost had not a regional cadre working briefly in the village managed to persuade the province to include it in the limited number of projects for sinking deep wells with power equipment. The County Head questioned old shepherds and led prospecting parties for miles in the hills looking for springs. The peasants had already built a reservoir but almost no water had accumulated in it, so for 20 days and nights they carried water to every single plant 'in every sort of vessel, from buckets to saucepans – even chamber-pots!' (Crook and Crook, 1966, p. 89).

By the early summer it began to look as if the plants would survive after all: then came hail, battering the cotton and the young maize. It was too late to re-sow the maize so the peasants went back to nurturing every bedraggled plant individually, watering it and feeding it with fertiliser. Just as new growth began to appear, the rains came. 'Vegetable seeds, just planted, at the urging of the Party Committee, to provide more varied menus in the canteens, were washed out' (Crook and Crook, 1966, p. 91). And the new dam was breached. At a time of peak agricultural labour demand, rebuilding it took a number of cadres, 130 villagers and 180 schoolteachers on a nearby refresher course four days and nights of round-the-clock work. The Crooks end their story of this fight with the elements by stating that the commune claimed it had kept production at the level of 1958, although from the point of view of labour expenditure it had been the costliest harvest ever produced. There is unfortunately no way of learning, at the present time, whether the claims of output in Yangyi were as unrealistic as elsewhere in the country.

In 1960–61 the amount of grain available to the rural population reached its lowest point, and there was only a marginal improvement in 1961–62; in both years a disproportionate amount of what was produced went to the cities (Table 5.7), although in the latter year peasants were allowed to keep rather more of their meagre harvest. Figures for grain output other than for the country as a whole between 1960 and 1962 are still rare, but estimates for some provinces have been provided (Walker, 1984, p. 159). Even Heilongjiang became an importer of grain in 1961 and 1962; Sichuan, the other national granary, imported throughout the period.

The year 1961 was, as we have seen, the peak year – in southern China at least – of the incidence of the clinical symptom of severe malnutrition, oedema, which was still high in the following year; and the disposal of draught animals continued into 1962 although in that last year their numbers declined more slowly than in the previous two

Table 5.9 Estimated Grain Output per Head of Total Population in Twelve Provinces of China, 1960–62

Province	*Average 1952–57* (kg)	*1960* (kg)	*1961* (kg)	*1962* (kg)
China	293	217	227	238
North-East				
Heilongjiang	598	366	335	199
Liaoning	282	–	183	–
North-West				
Qinghai	276	186	–	–
North				
Henan	257	145	–	–
Hebei	244	186	–	–
Shandong	254	151	–	–
Centre				
Hunan	304	–	220	–
East				
Jiangsu	271	176	214	220
South-West				
Guizhou	269	–	–	209
Sichuan	293	181	192	191
South				
Guangxi	299		*c.*227 average	
Guangdong	306	238	247	265

SOURCE: Walker, 1984.

years. Animal husbandry reduced its contribution to the composition of the gross agricultural output value by a quarter in 1959 compared to the average level during the 1950s; and the contribution fell by a further third in 1960. From 1961 its contribution began to rise again slowly. Animals, as we have seen, tend to be sacrificed comparatively early during a period of shortage. The contribution fo fishing to the composition of the gross agricultural output value increased by nearly half in 1959 compared with the previous year, which was already a peak one; in 1960 it increased again by more than two-thirds, and in 1961–62 it returned to the level of 1959. This suggests an attempt to invest in an alternative source of food, reaching its maximum intensity in the earlier part of the famine but continuing throughout. A slightly different pattern is found in the contribution of forestry to the composition of gross agricultural output value: it too peaked in 1960 at twice its 1956–57 level, but from then on it returned to its

pre-famine contribution. Together with the figures given earlier for the declines in afforestation during the famine years, this indicates that the high commercial exploitation of timber in the earlier part of the period was a way of buying grain; afterwards, perhaps, its grain-trade value may have declined. In the next chapters, we shall see how far the demographic profile of the famine years enables us to modify or confirm the patterns of deprivation which have been outlined here.

6 Mortality Consequences of the Famine

A number of estimates of the demographic consequences of the famine have been attempted. These estimates vary quite considerably, partly because of the assumptions on which they are based and the years which they cover, and partly because of differing data available at the time of the estimate. Early analyses, such as that of Coale (1981, p. 89) who estimated excess deaths between 1958 and 1961 of 16.5 million; Aird (1982, pp. 277–8) who produced a minimum net loss in 1960–61 of 23 million, and Mosher (1983, p. 264) who estimated deaths in 1960 at between 11 and 30 million, or Li (1982, p. 29) who suggested 10 million excess deaths during the same year, were based on annual births and deaths from the vital registration system and estimates of population totals.

More recent analyses have compared these data with the 1964 and 1982 census returns and with fertility rates derived from the One Per Thousand Fertility Survey, whose reliability was discussed in Chapter 1. From this, it appears that a substantial number of births were never recorded under the vital registration system. As, however, the population totals revealed at each census appear broadly to match the net balance of births and deaths obtained from registration, and the reported inter-censal growth rates, it follows that a substantial number of deaths were also not recorded. Often, in all probability, the two missing events were linked: when a birth was followed by the death of the infant, neither occurrence was reported.

Reconstructions of the vital rates have therefore been undertaken. One, by Coale (1984, pp. 68–70) assumed a rising completeness of official death registration throughout the period of the famine, and a downwards linear trend in death rates before and after the period. This produced an estimate of excess deaths during the years 1958–63 of 27 million. Gerard Calot (1984a, pp. 833–4), used adjusted population figures produced by Kincannon and Banister (1984, pp. 1–44), and based his calculations on the assumption that the trends in birth and death rates between 1953 and 1957 would have continued in the absence of the disaster. Assuming a birth rate throughout of 39.7 and a death rate falling from 17.3 in 1958 to 13.3 in 1963, he produced a deficit in births of 32 million, and 28 million excess deaths, between

1958 and 1963. He pointed out that the recovery of fertility in 1962 and 1963, together with the fewer deaths in the same two years because of the famine-related decline in population numbers, reduce the estimates to 29 million missing births and 27 million excess deaths.

In a later paper, using new methodology to correct for assumed under-registration of births and deaths, he got an estimate of 40.9 million excess deaths in 1960, but admitted that the corrections seemed very doubtful when applied to death rates (Calot, 1985, pp. 119–24).

The fullest examination of the impact of famine on fertility and mortality was undertaken by Hill (n.d.), and published later as a part of a paper by Ashton *et al.* (1984, pp. 613–45). He pointed out that Coale's analysis fails to take account of the fact that the number of deaths would have fallen during the famine as a result of decreased fertility. His recalculations of the data produced results which do not seem plausible. For example, they imply a high completeness of death registration (around 80 per cent to 1961 and 90 per cent thereafter, compared to Coale's 66 per cent in 1960). Given that the vital registration system was only established in 1955, and transferred from the Ministry of the Interior to the Ministry of Public Security in 1958, just as statistical systems began to collapse under the Leap, and given the chaos and migration during the famine years, such high levels of completeness of registration are difficult to accept, especially as it is known that considerable under-reporting of births and deaths continued right up to the 1980s despite official efforts to improve the system.

The demographic pattern produced by his calculations is that fertility fell by some 15 per cent in 1958–59, while infant mortality rose 60 per cent; in 1959–60 fertility fell by a further 15 per cent, infant mortality fell somewhat while adult mortality (particularly of males over age 40) 'increased enormously'; in 1960–61 fertility declined again by over 20 per cent, infant mortality fell to pre-crisis levels, and adult death rates remained extremely high; while in the final year, 1961–62, fertility recovered to 75 per cent of the pre-crisis level and infant mortality rose sharply, but adult death rates fell to near normal. Such a pattern not only fails to conform to any generally recognised famine model, but seems inherently unlikely, with, for instance, infant mortality and adult mortality moving in entirely opposite directions in 1959–60 and 1961–62. In general, it may be said that this paper attempts to do more with the available data than

is justified, and the results appear implausible. Total excess deaths from 1958–59 to 1962–62 were estimated by Hill at almost 30 million, while lost or postponed births were given as 33 million.

Banister (1985b, pp. 241–71) also undertook a recalculation of the vital statistics using the One Per Thousand Fertility Survey of 1982, although she was less concerned with the famine period in particular than with trends in Chinese fertility and mortality as a whole. The total number of deaths in the inter-censal periods was determined from the data on fertility and population growth, and trends in the official death rates were used to model trends in the estimated death rates. Analysis of survival ratios by age and sex in the inter-censal periods provided evidence on the age-pattern of mortality, and age-specific death rates were then estimated for eleven specific years and mortality for the intervening years was interpolated.

The Banister reconstructions have the advantage of being based closely on existing data, rather than incorporating a number of adjustments to those data which may or may not improve them. Her calculations also produce a plausible series of rates which suggest fluctuations in completeness of reporting of vital events, with registration of both births and deaths falling in 1958 as the Great

Table 6.1 Estimated Completeness of Birth and Death Registration, China 1953–65

	Crude death rate		*Crude birth rate*		*Percentage completeness**	
Year	PRC	JB	PRC	JB	CBR	CDR
1953	14.0	25.8	37.0	42.2	54.3	87.7
1954	13.2	24.2	38.0	43.4	54.5	87.6
1955	12.3	22.3	32.6	43.0	55.2	75.8
1956	11.4	20.1	31.9	39.9	56.7	79.9
1957	10.8	18.1	34.3	43.3	59.7	79.2
1958	12.0	20.7	29.2	37.8	58.0	77.2
1959	14.5	22.1	24.8	28.5	65.6	87.0
1960	25.4	44.6	20.9	26.8	57.0	78.0
1961	14.4	23.0	18.1	22.4	62.6	80.8
1962	10.1	14.0	37.2	41.0	72.1	90.7
1963	10.1	13.8	43.6	49.8	73.2	87.6
1964	11.6	12.5	39.3	40.3	92.8	97.5
1965	9.6	11.6	38.1	39.0	82.8	97.7

Notes: PRC Official figures from the People's Republic of China
JB Banister reconstructions
* Calculated as PRC/JB × 100

SOURCE: Population Census Office, 1982 and Banister, 1985.

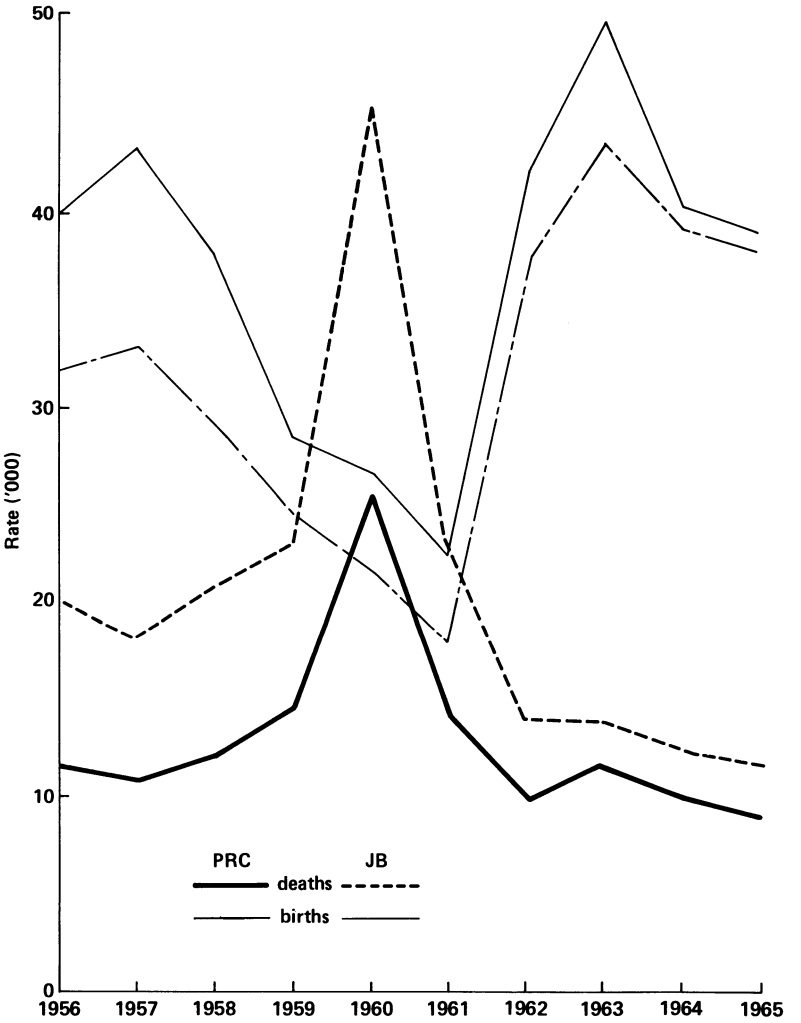


Figure 6.1 *Birth and Death Rates, China 1956–65* (Official figures PRC, and Banister reconstructions, JB)

Leap distracted attention elsewhere, and a second decline in 1960, which may indicate the period of maximum disruption due to famine.

In this chapter, both the official series of statistics based on registration and censuses, and the Banister reconstructions, will be used wherever possible, so that findings based on both the unadjusted data, and the data as implied by the Fertility Survey, can be compared.

POPULATION MORTALITY

The effect of the famine on the population can be seen from the vital rates presented in Table 6.1. In both the PRC and JB series, death rates, which had been steadily declining during the 1950s, more than doubled between 1958 and 1960. In the latter year, the natural growth rate became negative, at −4.6 per 1000 if the official figures are accepted, or at −17.8 in Banister's reconstruction; in the reconstruction the growth rate remained negative in 1961, at −0.6 per 1000 population. Both sets have the total population declining in 1960 and 1961; Banister's figures suggest that recovery was not complete even at the end of 1962.

From the population totals and vital rates, it is possible to estimate the excess deaths during the famine period, taking the average of the

Table 6.2 Population and Crude Growth Rates, China 1953–65

Year	*Population* (millions)* PRC	JB	*Crude growth rate* (per thousand) PRC	JB
1953	588.0	584.2	23.0	16.5
1954	602.7	594.7	24.8	19.2
1955	614.7	606.5	20.3	20.7
1956	628.3	619.1	20.5	19.8
1957	646.5	633.2	23.2	25.1
1958	659.9	646.7	17.2	17.1
1959	672.1	654.3	10.1	6.5
1960	662.1	650.7	−4.6	−17.8
1961	658.6	644.8	3.8	−0.6
1962	673.0	653.3	27.1	27.0
1963	691.7	674.2	33.5	35.9
1964	705.0	696.1	27.8	27.8
1965	725.4	715.5	28.5	27.4

Notes: *Year end population

SOURCE: Population Census Office, 1982 and Banister, 1985.

Table 6.3 Mortality Impact of the 1959–61 Famine in China

Year	*Mid-year population* (thousands)	*Deaths* (thousands) Actual*	Expected†	Difference
PRC				
1959	666005	9657	7326	2361
1960	667070	16944	7338	9606
1961	660350	9509	7264	2245
				14182
JB				
1959	654300	14460	10816	3644
1960	650700	29022	10756	18266
1961	644800	14830	10659	4171
				26081

Notes: * Based on vital registration (PRC) and on reconstituted rates from the 1982 Fertility Survey data (JB)
† Based on the average death rates 1956–58 and 1962–64.

SOURCE: Population Census Office, 1982 and Banister, 1985.

death rates for the years 1956–58 and 1962–64 as an indication of the 'expected' number of deaths which, under 'normal' circumstances, would have occurred between 1959 and 1961.

Because, during a famine, death is more likely to occur to those who are already elderly or otherwise weak, the death rates immediately following famine years tend to be lower than usual. An average which includes those years will understate the 'expected' number of deaths and thus somewhat increase the contrast between actual and expected deaths. Because the birth rate was substantially reduced in the famine, the actual number of deaths connected with birth and infancy was also lower than would normally have been the case; and, hence, the total number of expected deaths for the period is also less, and further increases the estimated excess of deaths. On the other hand, it appears as if registration of deaths improved after the famine (see Table 6.1), and if that is so, our estimate of 'normal' deaths in 1959–61 will be somewhat inflated, because it was based on a mortality rate 'inflated' by increased registration. This defect somewhat reduces the tendency, described earlier, to exaggerate the excess of deaths due to famine. All in all, the estimate, based on official figures, of 14 million excess deaths – 2 per cent of the

population – between 1959 and 1961 would seem to be a minimum one.

The estimate of excess deaths based on the Banister reconstructions is, at 26 million, almost twice as high, though it too may be biased upwards by the use of an average which included post-famine years, and by the lack of allowance made for the declines in birth rates. The third bias, the effect of improved registration, will not be present in this calculation as the death rates were corrected for under-registration. This estimate is however sufficiently close to those of Coale (1984) and Calot (1984a) to suggest that, despite slightly different assumptions and techniques of calculation, the order of magnitude of the excess mortality is plausible. It may be considered as the likely upper limit of the mortality impact of the famine.

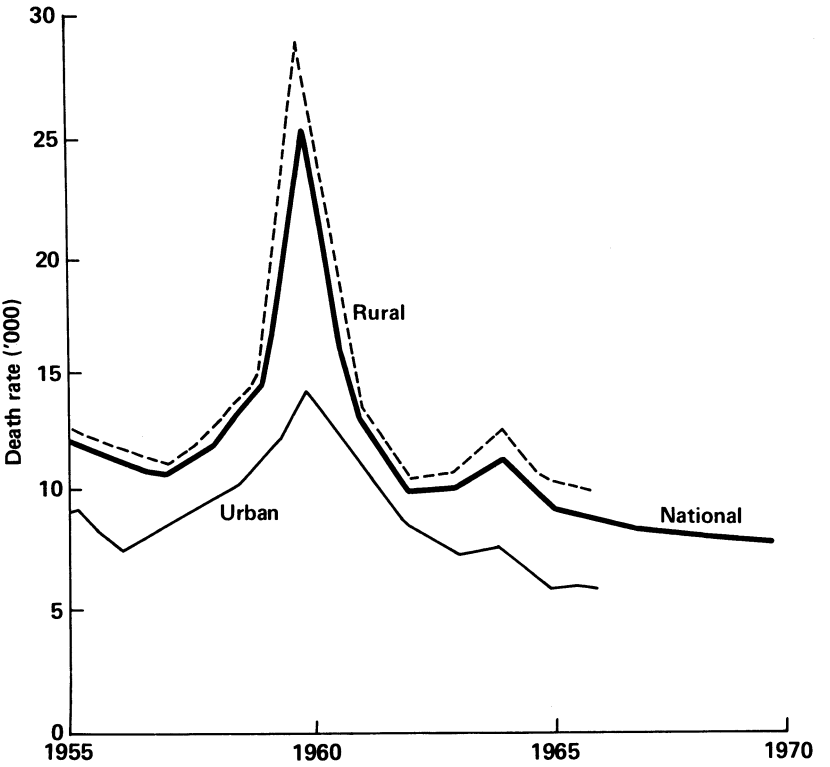


Figure 6.2 National, Urban and Rural Death Rates, China 1955–65

URBAN/RURAL DIFFERENTIAL MORTALITY

Although the increase in mortality was greater in the rural areas, reflecting both the low margin of peasant life and the greater ease of distribution of food reserves or imports in the cities, urban death rates appear to have doubled during the famine. Urban death rates also show a substantial rise rather earlier than those in rural areas, lending some confirmation to the view that cities may have suffered more in the earlier period of the famine.

DIFFERENTIAL MORTALITY BY AGE

The very old and the very young are known to be at particular risk during famine. Such rudimentary data as are available for China indicate a similar pattern of mortality. A table presented by Wang Weizhe gives the percentage differences between age-specific mortality rates in selected years from 1957 to 1978, and mortality rates in 1981, for the population of various ages between 45 and 85 (Wang Weizhe, 1984, p. 19).

Table 6.4 Percentage Changes in the Age-Specific Death Rates of People of Specified Ages, from the Years Given to 1981, China

Individual age	*Changes from: 1957*	*1963*	*1975*	*1978*
45	−46.85	−26.23	−5.81	−12.90
55	−23.21	−1.81	−18.33	−11.52
65	−11.46	+59.45	−18.23	−15.14
75	+10.51	+137.52	−14.89	+2.00
85	+18.38	+213.87	−16.85	+5.19

SOURCE: Wang Weizhe, 1984.

The existence of the 1981 abridged life tables (Jiang Zhenghua *et al.*, 1984, p. 17) makes it possible to estimate age-specific mortality rates for the years and ages shown in Wang's table.

Despite the impressive declines in the crude death rates since the 1960s, the age specific death rate in 1981 of the population aged 55 was less than 2 per cent below the rate in 1963, while it was nearly 60, 140 and more than 200 per cent above the corresponding rates in 1963 for those aged 65, 75 and 85 respectively.

*Table 6.5 Estimated Age-Specific Mortality Rates, China 1957–78**

Age	*1957*	*1963*	*1975*	*1978*	*1981*
45	7	6	5	5	4.8
55	15	13	15	14	12.4
65	36	13	39	38	32.8
75	73	31	94	80	82.0
85	152	87	218	177	186.3

Notes: *Based on abridged life tables (Jiang Zhenghua *et al.*, 1984) and Table 6.4 above. I am grateful to Dr Lado T. Ruzicka for the calculation of these estimates.

Wang suggested as a possible explanation of the extremely low death rates of the oldest age groups in 1963 the 'survival of the fittest' theory: '. . .the situation in 1963 may be regarded as a special case. During the three-year period of calamity, a great number of feeble old persons died, resulting in a death rate to be on the low side after the period of calamity.' However, the depressed rates of 1963 appear to be so low as to suggest that some under-registration of the deaths of the very old may also have occurred – a not unlikely happening if, in the post-famine period, the administrative apparatus was only slowly recovering.

The effect on the very young may be assessed by an examination of the 1964 census. The cohort aged 3 to 5 years in 1964 represents the survivors of all those born during the famine, between 1959 and 1961. The 6–8 year olds are the survivors of all those born before the famine, between 1956 and 1958; because children tend to suffer disproportionate mortality in a famine, that cohort may also have been depleted rather more than would be expected under 'normal' conditions. The cohort aged 0–2 in 1964, representing the survivors of those born between 1962 and 1964, includes the births of the post-famine baby boom, and thus may be larger than would be normally expected. However, by taking the average of the 1964 census population aged 0–2, and that aged 6–8, it is possible to get a rough indication of the expected number of the surviving children born between 1959 and 1961. The difference between actual and expected numbers in the famine-affected cohorts reflects the decline in births during that period, as well as excess deaths, and it is not possible to separate the relative contributions of each.

Whereas under 'normal' circumstances, one would expect almost equal ratios between the two subsequent age groups (last column in

Table 6.6 Cohorts Aged 0–2, 3–5 and 6–8 in 1964 in China

Age in 1964	*Population* (thousands) actual	expected	*ratio* actual*	expected**
0–2	74301.2	74301.2	–	–
3–5	40724.2	66545.9	0.548	0.896
6–8	58790.7	58790.7	1.444	0.883

Notes: *ratio = population 3–5/population 0–2
**ratio = population 6–8/population 3–5
SOURCE: Population Census Office, 1983.

Table 6.6), the reduction in the number of births during the famine and the excess deaths markedly reduce the 3–5/0–2 ratio and augment the 6–8/3–5 ratio.

However, some indication of the contribution of infant mortality to the decline in the size of the famine-affected cohorts can be found in Banister's calculations of infant mortality rates. Survival ratios by age and sex for the two inter-censal periods suggest a steady decline in infant mortality until 1958, when there is a slight rise, followed by a further increase in 1959 and a much greater one in 1960. In 1961 the infant mortality rate begins to fall and after that year the decline is dramatic.

There is unfortunately no information available as to what this increased mortality during the first year of life consisted of. In the absence of better data, one can only speculate, on the basis of maternal malnutrition-related effects on pregnancy and its outcome, that it was divided into mortality in the first few days of life when the child was perhaps of low birthweight, too weak to suckle, or its

Table 6.7 Infant Mortality Rates in China, 1953–82

Year	*Infant mortality rate* (per thousand live births)	*Year*	*Infant mortality rate* (per thousand live births)
1953	175	1960	284
1954	164	1961	183
1955	154	1962	89
1956	143	1963	87
1957	132	1964	86
1958	146	1965	84
1959	160		

SOURCE: Banister, 1985.

mother had no milk; and mortality at the time of weaning, when substitute foods were either limited or difficult for a baby to digest, or both.

PROVINCIAL DIFFERENTIALS IN MORTALITY

These broad national trends for the famine years can be supplemented to a limited extent from such provincial data as are available. Mao Zedong said, in 1961, that there were three provinces – Shandong, Henan and Gansu – where the situation was 'grave', and he appears to have been referring both to politial disturbances and the food crisis (Bernstein, 1984, p. 344). From a comparison of the 1953 and 1964 census figures and of the provincial growth rates, Anhui, Guizhou, Sichuan and Gansu stand out as provinces where 'the effect of high mortality on population growth must have remained considerable' (Tien, 1985, p. 120) while Shandong and Henan's low growth rates reflect high rates of out-migration to the north-east, but may also imply some excess mortality. Unfortunately, here again we have no way of knowing year-to-year mortality, or migration, at the sub-national level, and so cannot clearly attribute mortality to the famine period.

Three provinces – Hebei, Henan and Zhejiang – have so far had single-year age and sex compositions reported for the 1982 census, and the single year breakdown for Anhui – which is known to have suffered badly in the famine – is available from the 1964 Census. Each of the four provinces was traditionally subject to drought or floods. A classification of provinces according to grain output per head in 1955–57 put Hebei, with 197 kilograms per head, almost at the bottom of the list of provinces for which data were available; Zhejiang at the top of the 'adequate' range, with 307 kilograms, and Anhui just into the 'grain rich' provinces with 341 kilograms; there were no data for Henan (Walker, 1981, p. 233). By comparison, each of the provinces except Henan was classified as grain rich in 1978–80.

Among the four provinces, there are differences in the over-all levels of mortality. A national retrospective sample survey of mortality, carried out between 1973 and 1975 in twenty-four provinces of China, gave life expectancy at birth for males as 67.1 years in Hebei, 66.4 years in Zhejiang, 65.1 years in Henan and 64.5 years in Anhui. Each province had, at that time, life expectancy for males slightly above the national average of 63.6 years (Rong Shoude

Table 6.8 Provincial Population Growth, China 1953–64 and 1964–82

Province	*Average annual growth (%)* *1953–64*	*1964–82*
North-East		
Heilongjiang	7.24	2.33
Jilin	5.32	1.45
Liaoning	3.96	1.17
North		
Hebei	1.29	1.98
Shanxi	2.48	2.16
Beijing	5.90	1.22
Tianjin	3.21	1.35
Shandong	0.98	1.89
Henan	1.33	2.67
East		
Anhui	0.17	3.28
Jiangsu	1.46	2.00
Shanghai	2.07	0.55
Zhejiang	2.16	2.07
Central		
Hubei	1.94	2.32
Hunan	1.08	2.52
Jiangxi	2.33	3.19
South		
Fujian	2.50	3.02
Guangdong	2.10	2.14
Guangxi	0.59	2.14
South-West		
Guizhou	1.27	3.70
Sichuan	0.32	2.59
Yunnan	3.79	3.26
Xizang	−0.15	2.84
North-West		
Nei Monggol	5.79	3.08
Shaanxi	2.80	2.17
Ningxia	2.88	4.48
Gansu	1.09	3.04
Qinghai	2.49	4.57
Xinjiang	4.48	4.44
All China	1.76	2.33

SOURCE: Tien, 1985.

et al., 1981, p. 54). Hence, if a similar procedure to that earlier is adopted to estimate the impact of famine on mortality, the deficit in the number of survivors from the famine-affected cohorts may reflect not only differential exposure to the severity of the famine in each province, but also differences in mortality levels among the provinces.

By contrast with the figures for all China, the difference between actual and expected numbers in the famine-affected cohorts in Anhui is considerable. The actual surviving population, in 1964, of those born between 1959 and 1961 is a little less than a third of the expected size.

Table 6.9 Anhui Province, Cohorts Aged 0–2, 3–5 and 6–8 in 1964

Age in 1964	*Population* (thousands) actual	expected	*Ratio* actual	expected
0–2	3756.9	3756.9		
3–5	943.8	3039.4	0.251	0.809
6–8	2321.9	2321.9	2.460	0.764

SOURCE: 1964 census data for Anhui province.

Following the same method, the 1982 census data can be used for Hebei, Henan and Zhejiang. The two cohorts which were born before and after the famine were 18–20 years and 24–26 years old in 1982. The famine-affected cohort was 21–23 years old. There is no reason to assume that within each of these three provinces the 'normal' mortality experiences of those born immediately before, or during or after the famine will have been particularly different (except, of course, for the impact of the famine itself). Thus, although the cohorts are smaller in 1982, an average of those surviving from the births of 1956–58 and from births of 1962–64 should indicate the 'expected' number of survivors from the birth cohorts of the famine years.

The number of persons enumerated in 1982 in each of the birth cohorts followed here consists not only of survivors, but has also been affected by migration to and from the province during the intervening years. Unfortunately there are no data available for estimating this component of change, and so the results given below should be interpreted with caution. A further reason for this caution is that the army is enumerated separately in the census and is not included in the

age and sex breakdowns (Caldwell *et al.*, 1984, p. 21) so that young men in their twenties in 1982 are under-represented in the cohorts with which we are concerned.

Comparing the affected cohorts in each of the three provinces with the national pattern, it can be seen that Hebei and Zhejiang approximate fairly closely to the national experience of the famine years. Both have a closer correspondence between the actual and expected ratios of those aged 21–23 and those aged 18–20 than the country did as a whole. This is because the number of 20-year-olds in each province is noticeably smaller than the number aged 18 and 19 in 1982; it can be inferred that both provinces took longer to recover from the famine than did the country as a whole. Henan has the lowest ratio of survivors aged 21–23 of the three provinces; that cohort was much more severely reduced, presumably by the famine.

Some data also exist for Nanquan Commune, in Shifang County of Sichuan Province (Lavely, 1984, pp. 367–8). Although no age breakdown is given, so that it is not possible to make similar calculations to those presented above, a population pyramid based on

Table 6.10 Cohorts Aged 18–20, 21–23 and 24–26 in 1982, China and Selected Provinces

Age in 1982	*Population* (thousands) actual	expected	*Ratio* actual	expected
China†				
18–20	68080	68080		
21–23*	39270	62170	0.577	0.913
24–26	56260	56260	1.433	0.904
Hebei				
18–20	3420.5	3420.5		
21–23*	2356.5	3349.1	0.689	0.979
24–26	2418.5	2418.5	1.721	0.867
Henan				
18–20	5166.5	5166.5		
21–23*	2272.7	4514.6	0.444	0.882
24–26	3912.7	3912.7	1.721	0.867
Zhejiang				
18–20	2796.6	2796.6		
21–23*	1792.1	2607.5	0.641	0.932
24–26	2418.5	2418.5	1.370	0.928

Notes: †Figures for China based on the 10 per cent sample analysis
*Survivors from the cohorts born 1959–61

SOURCE: Population Census Office, 1983.

a sample survey carried out in 1981 shows a much greater dearth of people aged between 19 and 23 than does the comparable pyramid for Henan Province.

The pattern of the age structure for those four years in Nanquan indicates that the second year of the famine was the worst in this commune, while in Henan the greatest attrition comes in the third year. From the Nanquan pyramid, males seem to be missing in disproportionate numbers but this phenomenon was not discussed by the author.

However, as pointed out earlier, the estimation of regional variations in the mortality impact of the famine is confounded by the lack of information on internal migration. Hence, the results given here are no more than suggestive.

ETHNIC DIFFERENTIALS IN MORTALITY

Evidence on differential mortality during the famine by race is extremely sparse. However, it appears that between the 1953 and 1964 censuses, the annual average growth rate of minorities was 11 per 1000, compared with 15.9 per 1000 among the Han population. Much of the differential can be ascribed to the poor health and living conditions of the minorities, which have taken longer to change than has been the case for the Han people: even in 1984, infant mortality levels of over 100 were recorded for some autonomous prefectures and counties in Qinghai, for example (*Beijing Review*, vol. 28, no. 33, 1985, p. 9). A Chinese demographer, however, has noted that 'another cause was the high mortality rate and low birth rate in the difficult years at the end of the fifties to early sixties' (Liu Zheng, 1985, p. 2). Many of the minority peoples lived by trading other products for grain, like those in the Hsishuangpanna Autonomous Region, in the South-West, mentioned in the previous chapter. A further complication when examining the differential growth rate of minority groups is that for the various censuses, varying numbers of them have chosen to describe themselves as Han and this practice may have been particularly prevalent in 1964 (Pillsbury, 1981, pp. 35–58; Liu Zheng, 1985, p. 3).

SEX RATIOS

An examination of the sex ratios of births which are reported, and of children, can provide some indication of differential mortality by sex.

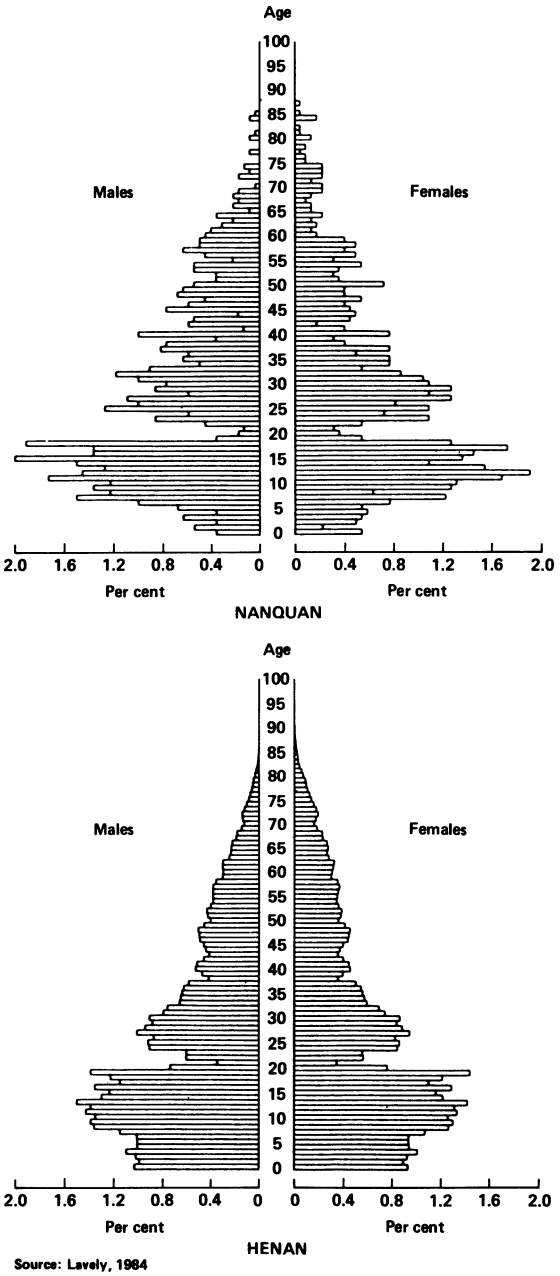


Figure 6.3 Population Pyramids for Nanquan Commune, Sichuan (sample population) 1981, and for Henan Province, 1982

The biological sex ratio at birth is fairly stable across populations, at around 105–107 male for every 100 female births. Because male children have a higher mortality, the ratio gradually reduces with increasing age. Where females have a low priority in the allocation of food or of health care, a disproportionate number of female deaths will result in high sex ratios. Rising sex ratios will also occur where the birth of female children is of less importance than the arrival of a son, and female births may be less likely to be registered and female children less likely to be reported in a census. This has been the case in, for instance, many Asian countries and is suspected to be true in China as well. In examining sex ratios at birth the words of the head of China's State Statistical Bureau, Li Chengrui, should not be overlooked. Discussing the reliability of the 1982 census, and of other censuses and surveys, he remarked, 'It would seem that it is more difficult to ennumerate the population at birth than to ennumerate survivors, and the reliability of the sex ratios at birth is somewhat lower than that of the sex ratios of the total population of various age groups' (Li Chengrui, 1985, p. 434).

Table 6.11 Sex Ratios of Cohorts Born 1959–64, China

Cohort	*Sex ratio in 1964 census*
1963–64	103.8
1962–63	105.3
1961–62	106.4
1960–61	107.0
1959–60	108.7

SOURCE: Johansson, 1984.

Differential mortality may be surmised from an examination of the sex ratios of cohorts born between 1959 and 1961 (Johannson, 1984). In the 1964 census, the sex ratio for those under one year of age was 103.8 and it rose with each cohort back to those who had been born in 1959–60. Under normal circumstances, a slight decrease in the sex ratio would be expected, as more boys than girls die in the first years of life. On their own, therefore, the sex ratios from the 1964 census suggest that girl babies suffered disproportionate mortality during the famine. However, if those cohorts are followed through to the 1982 census, two of the cohorts of girls appear to be larger than they were

in 1964. The over-all female losses during the period 1964–82 appear to be only a little less than half (4.8 per cent as against 9.3 per cent) those of the males (Table 6.12). This provides some support for the assumption that a number of children may not have been reported in the 1964 census, and that it was females who were likely to be excluded. (In considering the sex ratios of those cohorts as they appear in the 1982 census, the 'missing' group of young men in the army also has to be remembered.) The table also suggests some misreporting by age, which makes it difficult to analyse each cohort separately.

Table 6.12 Cohorts Born 1959–64, as Enumerated in the 1964 and 1982 Censuses of China

	Males:		*Females:*	
Cohort	*Number in 1964* (thousands)	*Remain 1982* (%)	*Number in 1964* (thousands)	*Remain 1982* (%)
1963–64	14510	87.6	13974	88.7
1962–63	15515	88.0	14733	93.2
1961–62	8025	95.8	7544	104.8
1960–62	5961	89.1	5574	96.2
1959–60	7450	98.3	6855	101.8
1959–64	51462	90.7	48680	95.2

SOURCE: Johansson, 1984.

An alternative explanation is that the new Marriage Law of 1980 – which came into effect in 1981 – and which set the marriage age for women at 20, may have affected responses to the 1982 census, both from girls who were anxious to be taken for 20 when the law came into effect, or who were equally anxious to be accepted as 20 for a marriage in 1982 (Li Chengrui, 1985, p. 438). All in all, it seems reasonable to assume that there was some excess female mortality among young children during the famine, though the 1964 census may overstate it.

Excess mortality is also found from an examination of older female children enumerated in the 1964 census. Thc girls born between 1949 and 1953 had declined by 10.8 per cent by the time of the 1964 census, while boys born in the same years had only declined by 8.7 per cent. There is unfortunately no way of establishing what proportion of these excess female deaths took place during the famine, as compared to the other years of the period.

Although there are data on the numbers by sex for single years reported for three provinces in the 1982 census, the analysis of the sex ratios of those born around the period of the famine would relate, by 1982, to what would be young adults. The number of survivors in 1982 reflects the impact of differential mortality between birth and the census, which may also have changed over time, and the ratio will also reflect past migration patterns, which may be quite significant in these age groups. As a result it is impossible to separate these factors from any impact of famine-related sex differentials in mortality.

Table 6.13 Cohorts Born in Anhui 1952–64, as Enumerated in the 1964 Census

Cohort	*Sex ratio*	*Cohort*	*Sex ratio*
1963–64	105.4	1957–58	120.8
1962–63	106.5	1956–57	118.8
1961–62	107.6	1955–56	116.4
1960–61	107.8	1954–55	113.5
1959–60	116.3	1953–54	111.5
1958–59	120.7	1952–53	110.7

SOURCE: 1964 census data for Abhui.

However, sex differentials for single years are available from the 1964 census for Anhui province, and that census was sufficiently close to the famine years for some assessment of the differential mortality impact to be possible. In contrast to the national figures, Anhui's are stark. Anhui's population sex ratio was always and continues to be extremely high, but girls born between 1955–56 and 1959–60 seem to be missing in particularly large numbers, despite national declines in mortality during the 1950s. Such girls, under the age of five but past the age of weaning, would have been particularly vulnerable to discriminatory feeding practices during a famine. Some of those missing from the 1959–60 cohort may have suffered a speedier death: an overseas Chinese friend of Han Suyin's reported during the famine that in Anhui 'the peasants have reverted to old times . . . as for girl babies, I think that infanticide has come back. . .' (Han Suyin, 1980, p. 293).

ASSESSING THE MORTALITY IMPACT OF THE FAMINE

Death rates and infant mortality rates seem, from the evidence presented here, to have reached their highest levels in 1960. Their

slow decline thereafter can be explained through the model developed by Bongaarts and Cain (discussed in Chapter 2), which argues that extra deaths will continue to occur in a weakened population for some time after the famine itself. The beginning of the rise in infant mortality, just visible in 1958, may be due to the weaning, at the time when the first food shortages were becoming apparent in some areas, of infants born early in that year. If that is the case, the over-all rise in infant mortality may reflect higher infant deaths at that period in urban areas as well as some rural areas. There seems to have been some excess mortality among girl children, and even some infanticide.

The young and the old appear to have suffered the greatest proportion of casualties. The differential grain rations in the cities, as has been shown, were certainly based on productivity and the differing physical demands of different types of work. In rural areas, too, grain distribution of whatever grain there was within the brigade was primarily related to work-points earned, although grain could be loaned or donated to families unable to provide for their needs. It would appear that, as is consistent with indications from other famine literature, in such a crisis, any available food within the family was also allocated primarily to the younger and stronger adults, who were the most capable of providing for that family.

Provinces which we have identified in the previous chapter as being particularly badly hit by lack of grain seem, from such evidence as is available, to have suffered higher mortality, together with groups such as minorities, whose terms of food entitlement changed.

7 Mechanisms for Survival

DEMOGRAPHIC MECHANISMS

The demographic mechanisms through which the hungry population attempted to limit the impact of the famine were, in many instances, probably the same as those which had prevailed in previous disasters in China, as well as being similar to those found in other famines such as were discussed in the second chapter. The One Per Thousand Fertility Survey provides much information about the effects of the famine on marriage and fertility.

MARRIAGE

In the early stage of the famine, marriages appear to have been postponed. The number of women aged 15–49 who married for the first time, as a proportion of all women of those ages, fell between 1957 and 1960 (Zhao Xuan, 1983, p. 103), and this was the case in both urban and rural areas (Calot, 1984b, pp. 1053–4). Indeed, declines in the number of urban women marrying for the first time occurred slightly earlier, and lasted longer, than rural declines.

Even in the 1920s and 1930s, urban women, who had paid employment in factories or other enterprises, often postponed marriage for many years (Kane, 1985). It seems reasonable to assume that the differential food rationing system during the famine was a real disincentive to urban marriage. As we have seen, according to this system women who did not work received the lowest rations. After the famine, and for the next decade (with the exception of the period of maximum disruption during the Cultural Revolution) the impact of government support for late marriage can be seen in the smaller numbers of young urban women marrying for the first time. The trend, however, seems to have been initiated by the famine.

In 1961 the rural marriage rate recovered to the level which prevailed in the 1950s and in 1962 it increased considerably. During 1957–58 some rural marriages may have been postponed because of the increasing involvement of women in the workforce, and the emphasis on production during the Great Leap, but in the subsequent two years it seems reasonable to attribute the deferment to the

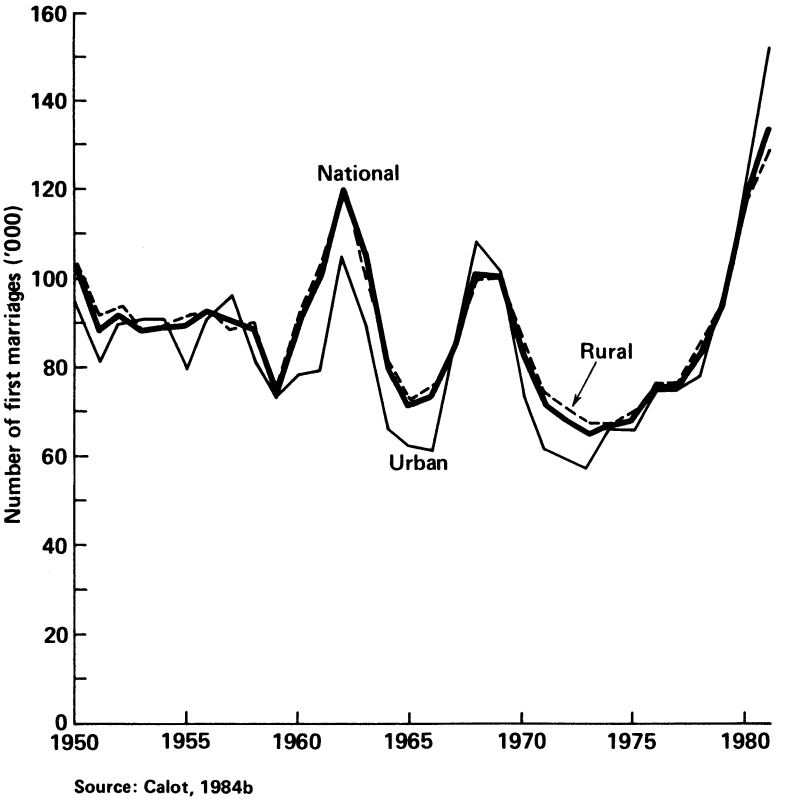


Figure 7.1 Number of First Marriages, per Thousand Women, China 1950–80 (Reproduced by permission of the Institut National d'Études Démographiques)

famine. Postponing marriage during a period of scarcity was often the result of an inability to provide bride price and money for the marriage, as well as due to the reluctance on the part of the man's family to take in another mouth to feed.

In Nanquan Commune, the mean age of marriage peaked in 1960 at 21 years – a level it was not to reach again until the Cultural Revolution (Lavely, 1984, p. 373). Although the annual fluctuations were in any case quite large, this increase of more than two years over 1958 and 1959 represents the largest single jump of any period from 1935. Lavely suggests (1984, p. 376) that not all of the increase in marriage age for the cohort born between 1940 and 1944, who would normally have been married at about the time of the famine, can be

explained by delays due to the famine, because there was no decline in marriage age for the subsequent cohort. Nevertheless, it appears that at the very least, the famine initiated a process of delayed marriage which was later institutionalised. In 1962, the end of the famine was signalled by a disproportionate number of newly-weds from among those whose weddings had been postponed (Lavely, 1984, p. 380).

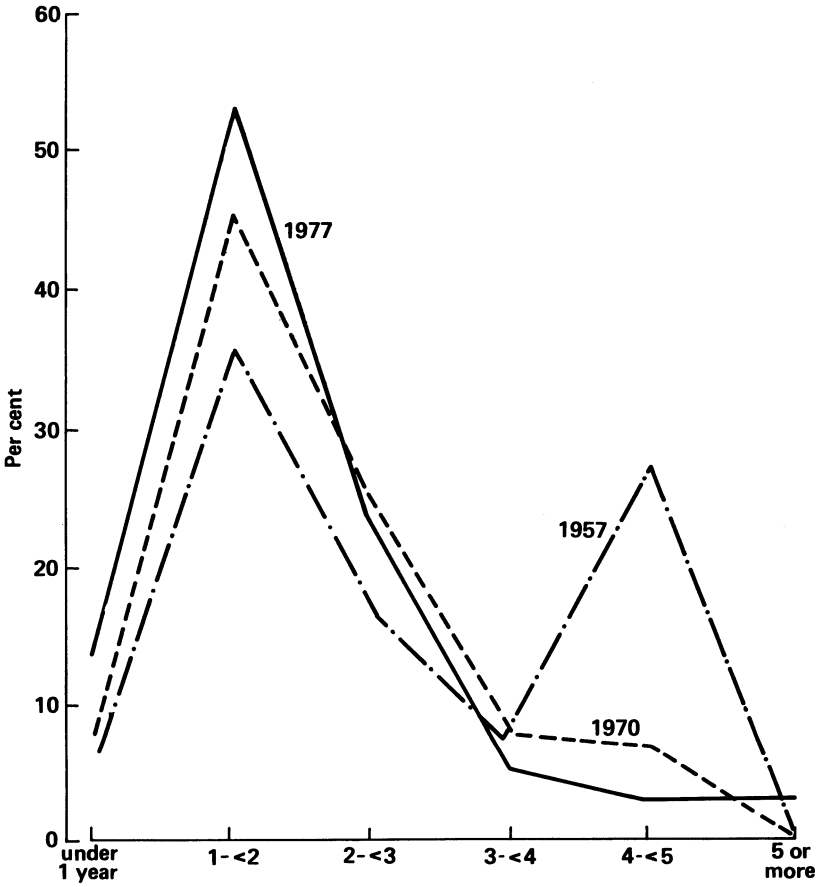
The same initiation of a process of delayed marriage appears to have been the case in Huaibei Plain, Anhui, for which a detailed analysis of the Fertility Survey sample has been undertaken (Yang Quanhe, 1985). Huaibei Plain is an area much given to flooding and variable grain yields. Women born in 1938–42 would have reached the ages of 17–21 in 1959. Only 13 per cent of the cohort were married at the age of 17, compared with around a fifth of women in earlier birth cohorts. By the age of 19, only 40 per cent had married, compared with more than half of earlier cohorts. By the age of 25 however, over 99 per cent were married, as had been the traditional pattern (ibid., p. 51).

Single or married, the effect of famine on a woman, whose priority in the allocation of food within the family was always low, could be devastating. In the village of Kaixian'gong, of the thirty-five divorced men studied in 1981, twenty-three had lost their wives who 'went away to beg' during the famine years (Fei Xiaotong, 1983, p. 251).

FERTILITY

Even when the marriage was not postponed, the first birth may have been, although, when the data are for the mother's age at first birth, it is difficult to distinguish whether a higher age at first birth implies a longer interval or a later marriage. The only years for which figures are available nationally on the intervals between the average year of marriage and first birth are 1957, 1970 and 1977 (Ran Yugang and Xie Quibin, 1983, p. 67).

It is possible that the changes of the pattern between 1957 and 1970 shown in Figure 7.2 reflect to some extent rises in the average age of marriage, leading to a departure from a more traditional pattern of very early marriage which did not involve immediate consummation. Nevertheless, the very high percentage of women marrying for the first time in 1957 who waited for four years or more to have a first birth suggests that the famine may have at least increased the



Source: State Family Planning Commission, 1983

Figure 7.2 *Intervals Between Average Year of Marriage and First Births, for Marriages Taking Place in China in 1957, 1970 and 1977*

likelihood of a postponement of birth. This view receives some confirmation – at least for rural areas – from an examination (Calot, 1984b, p. 1050) of the mean age of childbearing: his study shows a slight rise between 1958 and 1960. The very marked fall in average age of childbearing between 1961 and 1963 among both urban and rural women probably reflects shortened birth intervals, which are discussed below. (The long term trend in decline in mean urban age of childbearing reflects the increasing urban use of contraception and reductions in family size.)

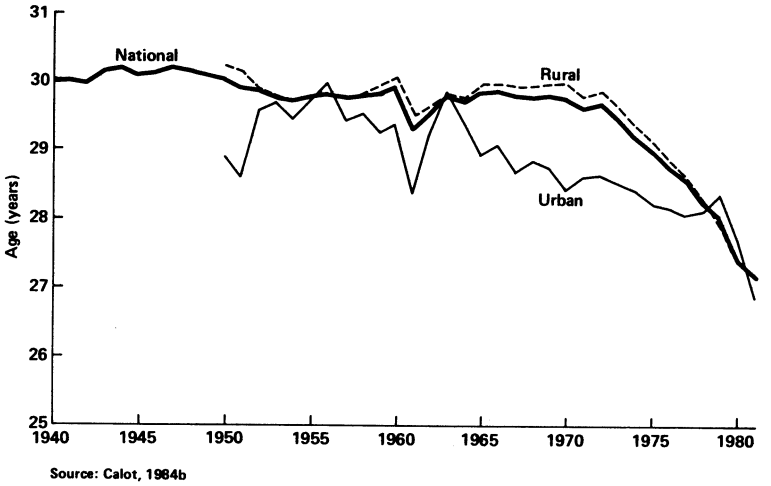
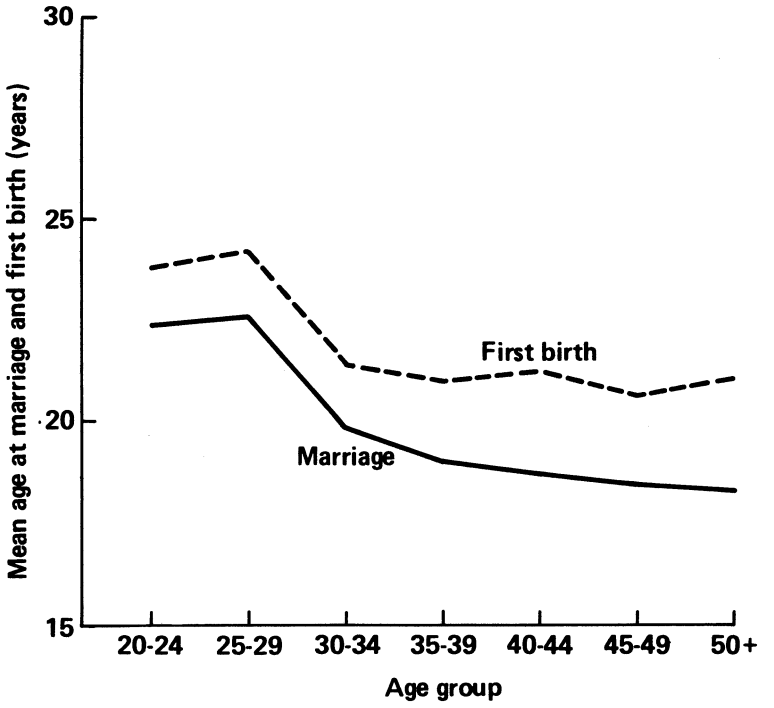


Figure 7.3 Average Age of Women at Childbearing, all China and Urban–Rural Difference (Reproduced by permission of the Institut National d'Études Démographiques)

A graph of the mean age at marriage and first birth by age group for the women of Huaibei Plain, Anhui, (Yang, 1985, p. 57) also indicates that the women who were aged 40–44 at the time of the survey in 1982 had a longer gap between marriage and first birth than either the previous or subsequent birth cohorts.

Further confirmation of the assumption that some births were postponed during the famine is offered by the birth rates during the period 1959–61. As was the case with mortality rates, we can examine both the official figures based on vital registration statistics, and the rates calculated by Banister from the Fertility Survey. Here again the pattern of the two alternatives is very similar, although the Fertility Survey, which was based on exhaustive questioning of women about their pregnancy history, sometimes double checked with their families and neighbours, probably returned a much greater proportion of all births than the registration. As has already been noted (Table 6.1) registration of births seems to have been very defective during the 1950s. The completeness peaked in 1959 – perhaps because early food shortages provided an incentive to register births and claim rations for every mouth – declined again in 1960, when deaths, including infant deaths, reached their highest levels; it began to improve steadily thereafter.

Both sets of birth rates show very high levels in the early 1950s;



Source: Yang Quanhe, 1985

Figure 7.4 Mean Age of Women at Marriage and First Birth, by Cohort, Huaibei Plain, Anhui

perhaps unusually high as a result of recovery from the war period. They show a dramatic deceleration from 1959, and reach a mere half of the 1954 levels by 1961. As an indication of the severity of the famine (Bongaarts and Cain 1982, p. 48), such a decline puts the Chinese famine between the Bangladesh famine of 1974, where the birth rate in Matlab thana – an area markedly affected – dropped by a third, and the Dutch famine of 1944 to 1945, where the birth rate was cut by more than half. During the Leningrad famine, by contrast, fertility declined almost to nothing.

Taking an average of the birth rates for the years 1956–58 as an indication of the expected number of births under 'normal' circumstances, the expected number of births between 1959 and 1961 can be estimated. (Birth rates after 1961 can be expected to be

Table 7.1 Crude Birth Rates, China 1953–65

Year	*Crude Birth Rates* (per thousand) PRC	JB
1953	37	42.2
1954	38	43.4
1955	32.6	43.0
1956	31.9	39.9
1957	34.3	43.3
1958	29.2	37.8
1959	24.8	28.5
1960	20.9	26.8
1961	18.1	22.4
1962	37.2	41.0
1963	43.6	49.8
1964	39.3	40.3
1965	38.1	39.8

SOURCES: State Statistical Bureau, 1982 (PRC); and Banister, 1985 (JB).

inflated by the inclusion of deferred births from the famine period and are thus not used in the calculation of the deficit.)

The estimate of almost 34 million missing births may be too high, in particular, if even the Fertility Survey did not manage to elicit from the women surveyed some of the births which took place during the bad years and were followed by the child's death. But it is clear that the survey did pick up a great many births which were never registered and so one must assume that the estimate based on the survey figures is closer to reality than is an estimate based on the official birth rates. It is also very similar to the estimates produced by Calot (1984a) and Hill (Ashton *et al.*, 1984) which were calculated by slightly different methods, as discussed above.

Had it not been the case that every member of a brigade was entitled to a share of the available grain, it is possible that even greater declines in the numbers of births might have occurred. There is an interesting statement by Han Suyin (1980, p. 303) that in 1961 the people of rural Sichuan were singing 'Oh, better produce a little meat ball than work for workpoints' – the little meat ball being the baby who was entitled from the day of its birth to a full grain ration. However, such a tactic was only of benefit in areas where there was enough grain for the ration to be provided. It does not appear to have

Table 7.2 Fertility Impact of the 1959–61 Chinese Famine

Year	*Mid-year population* (thousands)	*Births* (thousands) Actual*	Expected†	Deficit
PRC				
1959	666005	16517	21179	4662
1960	667070	13942	21213	7271
1961	660350	11952	20998	9047
		42411	63390	20980
JB				
1959	654300	19302	28566	9264
1960	650700	17439	28410	10971
1961	644800	14444	28151	13707
		51185	85127	33942

Notes: * Based on registered births (PRC) or pregnancy histories (JB)
† Based on the average birth rates 1956–58.
SOURCE: State Statistical Bureau, 1982 (PRC); and Banister, 1985 (JB).

been carried out in Nanquan, even though Shifang County is on the Chengdu Plain of Sichuan, a fertile and well-irrigated region growing rice, wheat, rapeseed and tobacco. Here, although the mean age at which mothers had their first baby was 22.2 for the cohort of 1940–44, compared with 20.9 and 20.6 for the cohorts born in 1930–34 and 1935–39, the gap between marriage and first birth was two years, in no way abnormal for the community (Lavely, 1984, pp. 377–8). Thus in Nanquan, the reaction to the famine was a much greater postponement of marriage than was the case in Huaibei Plain, but no comparable change in the timing of the first birth.

Much more significant change is noticeable in the intervals between first and second, and second and third, births. These intervals are very considerably shorter than among the previous or subsequent cohorts and suggest that many of those first and second births must have been followed by the death of the child, and hence a lack of protection from pregnancy through breastfeeding. The infant mortality rate in Nanquan, which had been at around 150 during the period 1948 to 1957, varied during the famine years between 220 and 400 (Lavely, 1984, p. 370). The Nanquan rate was high compared with the official national average infant mortality rate, in 1957, of 58 per 1000 (Liu Zheng, 1985, p. 7). The official figure is probably a considerable under-estimate based on inadequate registration of

Table 7.3 Mean Birth Intervals by Birth Cohort of Respondent, Nanquan Commune, Sichuan

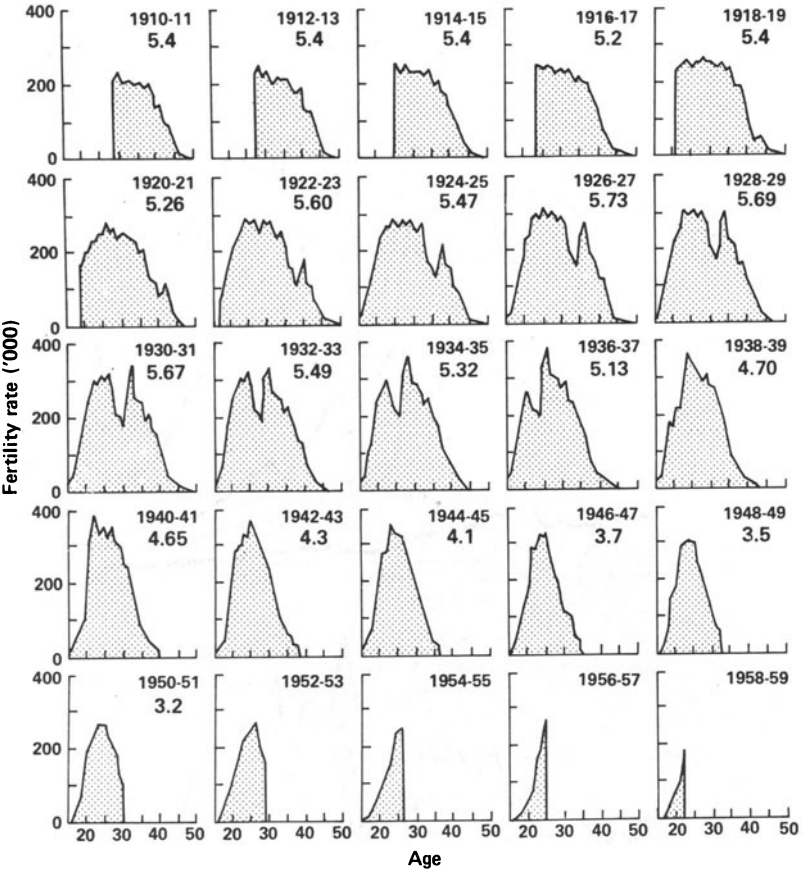
Birth cohort	*N*	*Birth Interval* (months) *Marriage to 1st birth*	1st to 2nd birth	2nd to 3rd birth	3rd to 4th birth	*Cohort mean**
1910–19	23	35	23	29	31	30
1920–24	23	32	23	30	29	29
1925–29	30	26	23	34	35	30
1930–34	37	31	31	39	38	35
1935–39	35	25	37	36	38	34
1940–44	28	24	24	27	33	27
1945–49	46	18	31	33	–	27
1950–54	54	15	37	–	–	26

Notes: *Equal weighting for intervals
SOURCE: Lavely, 1984.

infant deaths, but, after allowing for that it still appears that Nanquan had infant mortality levels above those of the country as a whole. Even when the child survived, it is possible that the mother was unable to breastfeed because of acute malnutrition, and thus became vulnerable to a subsequent pregnancy. At the time of the famine, artificial methods of contraception had barely reached Nanquan; in 1961 only one per cent of married women had ever used contraception and none, in that year or in 1962, were current users (Lavely, 1984, pp. 372–4). Despite this lack of artificial methods of contraception, total fertility rates were 2.31 per woman during the years 1959–61, and soared to 7.43 per woman in the recovery period of 1962–64, as a result of the backlog of newly-weds and the increased fertility of the population to compensate for reduced childbearing during the previous years (Lavely, 1984, p. 379).

Reduced fertility at all ages is graphically represented by Gerard Calot, using the data from the Fertility Survey (Calot, 1984b, p. 1048). Total fertility rates by age for each generation (birth cohort) show a pronounced drop as the famine years were reached, and this is apparent even for women born in 1918–19, who were in their early 40s at the famine period. The major impact, however, appears to be on women born in 1922–23 or afterwards; in other words, on women in their 20s and 30s at the time of the famine. The point is made even more clearly, perhaps, in his graphs of total fertility rates at certain ages (Calot, 1984b, p. 1049).

Reduced fertility is also apparent in the study of Huaibei Plain (Yang Quanhe, 1985, pp. 41–5). In order to understand the



Note: The number given for each generation is the total fertility rate
Source: Calot, 1984b

Figure 7.5 Total Fertility Rates by Age, for Generations Born in China Between 1910–11 and 1958–59 (Reproduced by permission of the Institut National d'Études Démographiques)

reductions, it is necessary to keep clearly in mind the ages of the women in the various cohorts during the famine years, and how these relate to the childbearing ages shown in Table 7.4b.

Because of the truncation of information from retrospective surveys, some of the affected cohorts can be compared only with childbearing patterns of earlier birth cohorts, and some with later-born cohorts. Women who were in the childbearing ages 15–19 and 20–24 had markedly lower age-specific fertility during the period

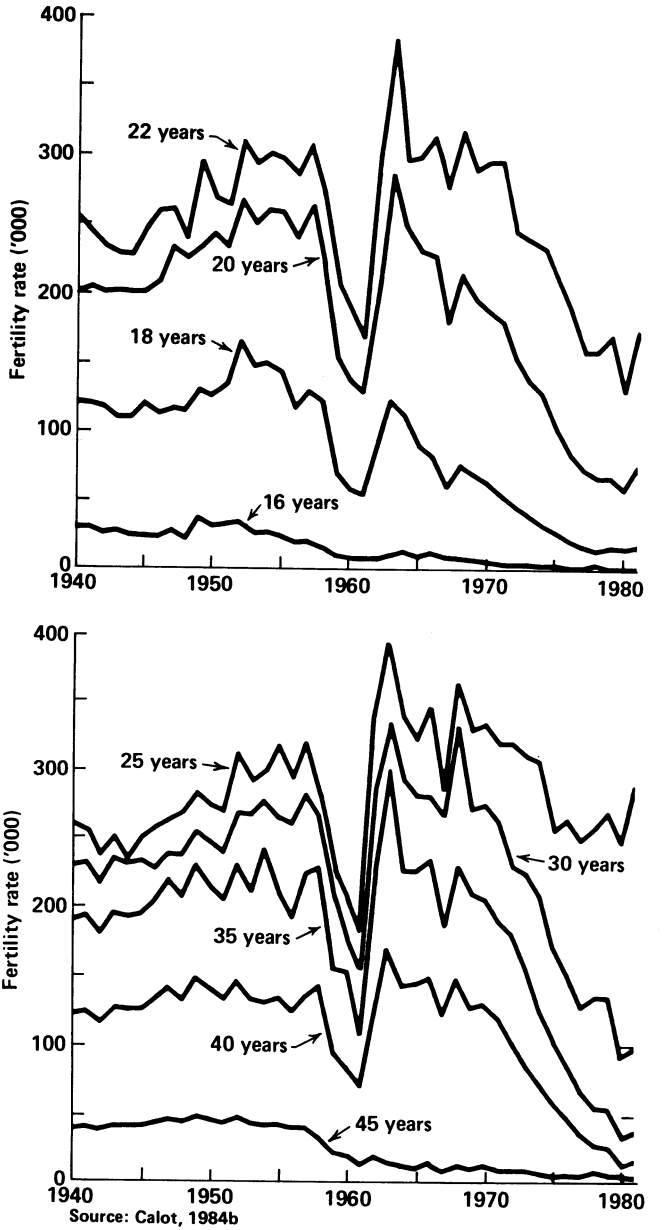


Figure 7.6 Age-Specific Fertility Rates per Thousand, China 1950–81 (Reproduced by permission of the Institut National d'Études Démographiques)

Table 7.4a Cohorts Surveyed in 1982 and Their Relevant Child Bearing Ages at the Time of the Famine

Cohort born in years	*Age in famine years 1959–62*	*Relevant child-bearing ages*
1962–67	–	–
1957–62	–	–
1952–57	2–10	–
1947–52	7–15	–
1942–47	12–20	15–19
1937–42	17–25	15–24
1932–37	22–30	20–29
1927–32	27–35	30–34

Table 7.4b Cohort Age-Specific Fertility Rates, Huaibei Plain, Anhui (per 1000 women)

Age at survey	*Age at time of birth*						
	15–19	20–24	25–29	30–34	35–39	40–44	45–49
15–19	4.5						
20–24	14.5	111.4					
25–29	12.5	174.3	268.3				
30–34	23.2	238.3	274.0	131.8			
35–39	34.5	276.3	291.0	158.8	44.5		
40–44	36.4	230.1	326.0	245.1	69.0	3.5	
45–49	69.7	234.3	253.4	283.7	171.3	36.5	3.5
50–54	83.1	247.4	198.4	229.2	211.9	75.1	6.3

SOURCE: Yang Quanhe, 1985.

of the famine than did earlier cohorts at the same ages, while women in the childbearing ages 20–24, 25–29 and 30–34 also had much lower age-specific fertility than did subsequent cohorts. In the years immediately following the famine, women in all age groups had much higher fertility than would have been expected from a comparison with other cohorts. Unfortunately there are no data for women who were aged 35 or over during the time of the famine, but the picture for all younger ones is unequivocal: much reduced fertility during the famine and a surge in fertility thereafter.

During the famine fertility patterns in urban and rural areas were somewhat different (Liu Zheng, 1985, p. 6).

From Table 7.5 it can be seen that the decline in urban fertility, which began in 1959, was continued from 1964 and thus seems to depict an over-all trend towards smaller families and the spread of

Table 7.5 Ratio of Rural to Urban Fertility, China 1957–65

Year	*Urban*	*Rural*	*Ratio R/U*
1957	5.943	6.504	1.094397
1958	5.253	5.775	1.099372
1959	4.172	4.323	1.036194
1960	4.057	3.996	0.984964
1961	2.982	3.349	1.123072
1962	4.789	6.303	1.316141
1963	6.207	7.784	1.254068
1964	4.395	6.567	1.494198
1965	3.749	6.597	1.759669

SOURCE: Liu Zheng, 1985.

contraceptive use. In 1960 there was some intensification of that fall, but the really dramatic drop in fertility was in 1961. Han Suyin had already noted in 1960 that the maternity hospital in Beijing, full in 1959, was fairly empty. The women, a gynaecologist told her, asked for abortions. There was also a great deal of amenorrhoea, mostly among housewives and female workers, while others suffered heavy and irregular bleeding (Han Suyin 1980, p. 293). In rural areas, there is no evidence of the famine interrupting any trend towards an over-all change in family size. The effects of the famine are evident in 1959, intensify in 1960, and reach a peak in 1961. By 1962, both urban and rural fertility had recovered to pre-famine levels, and both reached their maximum levels in 1963. This would suggest that urban areas only experienced the full effects of the famine in 1960–61, whereas its impact, in some rural areas at least, was already serious in 1959.

MIGRATION

Given the Chinese system of controls on population movements in the 1950s migration may have been less of an option for the famine victims than was traditionally the case. However a report by the Ministry of Internal Affairs, of spring 1957, noted that in the previous year half a million peasants had left famine-stricken areas in favour of towns and cities in the hope of finding employment (Lardy 1983, p. 37). This suggests that controls on rural–urban migration were far from complete, in particular in the face of local famine or severe food

shortages. During the 1950s, low average levels of rural as opposed to urban consumption – which meant a difference between inadequate and high consumption – in the provinces of Shanxi, Henan, Hebei and Guizhou provided an incentive to peasants in those areas to migrate to towns simply in order to eat (Walker, 1984, p. 124).

Reliable migration figures in China are lacking. However, the official communiqué listing the ten tasks for adjusting the economy in 1962 gave, in fourth place, the 'need to reduce the urban population and the number of workers and functionaries to an appropriate extent by persuading, first of all, those workers and functionaries who had come from rural areas to return to rural productive work and strengthen the agricultural front' (Robertson, 1962, p. 44). In some cases, factory workers lost their jobs and were sent back to their villages as a result of the termination of Soviet aid (Hinton, 1983, p. 303). The Great Leap, and the introduction of the communes, had encouraged rural to urban migration: Mao quoted a commune whose workforce of 20–30 thousand had been reduced by 10 000 who left after the pigs and poultry became communal property (MacFarquahar, 1983, p. 14). In 1957, the urban population was 99.5 million, and by 1960 it had reached 130.7 million, or almost 20 per cent of the total population – a proportion to which it would not return until 1980. Efforts to reduce the urban population began in 1961 and resulted in a net loss of 16 million by 1962 (Wang Sijun and Han Changxian, 1985, p. 30).

The still somewhat mysterious episode of the border crisis in early 1962, when some 63 000 refugees who had apparently received encouragement to leave China were apprehended by the Hong Kong government, may have stemmed in part from Chinese official recognition that returning vast numbers of urban migrants to the countryside was fraught with difficulties (Walker, 1962, p. 51). However, most of these people came from that traditional province of emigration, Guangdong. After 1949 the old roads to prosperity out of this highly-populated province were tightly controlled. The number of people was augmented by thousands of returning overseas Chinese, most notably from Indonesia. Guangdong was then one of the provinces to suffer most in the bad years and in the early spring of 1962 there were further severe floods. Reports – from the British Colonial Secretary and from journalists such as Richard Hughes – said that the great majority of the Chinese refugees were not starving or even suffering serious under-nourishment (Snow, 1966, pp. 497–8). Nevertheless, as Sorokin pointed out, relative deficiency may be

both qualitative and quantitative, and despite population pressures, Guangdong has always been a province of fertile lands, high incomes (in part because of remittances from overseas relatives) and high expectations. Its inhabitants might well feel deprived even when, objectively, they were much better off than those in, for example, Anhui.

There seems, though, to have been less attempt by the Guangdongese, let alone people from the rest of China, to emigrate than might have been expected: government controls made it difficult, but emigrés of the 1970s 'who could have left legally in earlier years report that in the difficult Great Leap years of 1959–61, when they seldom had enough food to fill their stomachs, they nevertheless served contentedly and never thought of leaving because of a sense of participating in a common cause of building a new country' (Parish, 1984, p. 114). A Sinocentric world-view and loyalty should never be under-estimated in considerations of potential Chinese emigration.

Anecdotal evidence suggests that many rural people, perhaps without relatives in towns or other hopes of sustenance there, nevertheless left their homes during the famine and drifted aimlessly in search of food. In some provinces, whole villages were deserted as the few survivors straggled off. The Kaixian'gong wives who left to beg have already been noted, as have those from the cotton-producing areas of North China who went south, hoping to exchange their clothes for grain.

THE DEMOGRAPHIC PICTURE

The demographic data on mechanisms for survival thus suggest an attempt to mitigate the impact of famine by avoiding increasing the number of mouths to be fed, through postponing marriages or births; nutritional concentration on the strongest and most productive members of the family; together with attempts to reach the urban areas, where food might be more plentiful, or 'wandering' off in search of more fertile areas.

Declines in the birth rate, beginning in 1959 in rural areas, also fit well with the Bongaarts and Cain model, if the evidence in Chapter 5 for acute food shortages in some areas beginning in late 1958 is accepted. The early urban food crisis was not perhaps sufficiently prolonged to have a substantial birth-rate effect, but the greater crisis

in 1960–61 is reflected in the decline in urban as well as rural births. The increase in the proportion of births which were registered in 1959, suggesting that food, if rationed, was still available, and the decline again in 1960, also support the picture of the concentration of the disaster in 1960, as does the fact that 1960 saw the peak of migration to the cities.

SOCIETAL MECHANISMS FOR SURVIVAL

Virtually nothing is known about other societal mechanisms which may have mitigated the effects of the famine. Such indications as are presented here are largely anecdotal. As in the past, those villagers who had more (perhaps because of a greater number of productive family members) helped their hungrier kin. Land reform and the redistribution of goods had put an end to the old lineage holdings, however, and the amount that wealthier kin members had to offer was limited. In place of the unreliable charity of lineage or landlords, destitute peasants turned to the team, which guaranteed a subsistence level of food to all its members. Teams and brigades had managed, in 1958, to keep back substantial stores of grain, and it seems that this local hoarding stemmed from a traditional mechanism for averting disaster. It has been argued (Thaxton, 1983, p. 100) that a fundamental tenet of peasant belief was that grain needed for survival should not be sent out of the county. In the previous chapter, efforts by the peasants to prevent grain being taken from them – including lies about their numbers, and the amount of grain available to them; hiding of grain; and even physical violence – were described, and it was noted that in 1958 these efforts were intensified. Although there is no documentation of the situation from 1959–62, it is impossible to doubt that the local determination to hold on to whatever grain was produced became more intense, more devious and even more violent. Han Suyin saw, on the way to Xian, some twenty peasants, some with chains on their feet, being taken away as 'counter-revolutionaries' but she was clear that their actions resulted from the desperation of hunger (Han Suyin, 1980, p. 288).

This stored grain provided the rations for the poorer families, and the poorer work-teams within a brigade, and local cadres were probably often sympathetic to the desire of their neighbours and relatives to hold what they had. It is possible, perhaps, to assume that at higher levels too – commune and provincial – there was an attempt

to ensure that food stores within the area were distributed equitably, and that as little as could be managed was sent elsewhere.

Not all were so accommodating, though. One Chinese fictional story (Zhang Yigong, 1981, pp. 534–86) describes some of the tensions which could result. The hero, Li Tongzhong, party branch secretary of his brigade, tries all the official channels to save his village in the spring of 1960, after the ambitious commune secretary has falsified grain production following the previous year's bad harvest. The commune secretary is afraid of being labelled a rightist if he admits the hunger, and also afraid of his lies being exposed. The villagers, as a result of the high procurements based on the falsified figures, are starving. When Li's lawful approaches fail, he leads the village to steal grain from the commune granary, and leaves a 'borrowing' slip in its place, to protect the watchman. Once the theft is completed Li gives himself up, but even on arriving at the courtroom, he still pleads with the county secretary to save a group of peasants waiting in a freezing railway station for a train to take them to other counties to beg food. The county secretary, at last aware of the problem, opens the county granaries, distributes the grain, and is dismissed by higher authorities, while Li, who has died as a result of exhaustion and starvation, is posthumously condemned for a serious crime against the state. It is not until nineteen years later that justice is done, and Li is exculpated.

There are several interesting features to this story. In the commune depicted here, it is apparent that no widespread collective mentality has developed since 1957–58 when it was formed. The brigade, however – the old village – does seem to have a strong collective identity and determination to protect the interests of its members. It is, though, not prepared to steal from the commune, and so a 'borrowing note' is left in place of the grain. There is grain available at the county level, too – but this is presumably state grain, intended to go elsewhere, because the county secretary is dismissed for distributing it. The county secretary's lack of knowledge of the local situation, and the ability of the commune secretary to keep him in ignorance, are apparent. So too is the atmosphere of lies which was such a disastrous consequence of the Great Leap. Finally, the story offers more evidence of local 'wandering' – going to other counties to beg, in the hope that in other places things will not be so bad.

Some evidence, on the other hand, for the assumption that in many instances the collective was a source of vital support comes from the pattern of income use in communes, as reported by the State

Statistical Bureau (1983, p. 210). The amount of tax taken by the state fell sharply from 1961. The percentage retained by collectives dropped by two-thirds in 1960 over the previous year, and that directly distributed to members rose to a peak in 1961; it remained high until 1964. Despite the lower percentage kept by the commune, that allocated to the public welfare fund also reached an all-time high in 1961. Among other things, the public welfare fund ensured some minimum living standards to those who had no families to care for them, or were otherwise disadvantaged. The most difficult year for the communes seems to have been 1960, when taxes were still high and little could be spent on welfare or kept as savings, in view of the increased need to distribute available income among members.

Those migrants who descended on friends or family members in areas less hard-hit than their own had no entitlement from the

Table 7.6 Relative Income Distribution of Basic Accounting Units in Rural People's Communes, China 1958–65 (Total income = 100)

Year	*Expenditure: Total*	*of which production cost*	*Net income*
1958	26.64	25.49	73.36
1959	26.77	24.89	73.23
1960	28.96	27.01	71.04
1961	26.70	24.49	73.30
1962	28.25	25.90	71.75
1963	28.31	26.25	71.69
1964	28.88	27.23	71.12
1965	28.18	25.05	71.82

	Distribution of net income:				
	State taxes	*Retention by collectives*	*Of which: accumulation fund*	public welfare fund	*Income distributed to commune members*
1958	9.51	11.56	9.8	1.52	52.29
1959	10.00	12.35	10.32	1.79	50.70
1960	9.90	4.41	3.00	1.00	56.73
1961	6.41	6.79	4.20	1.98	60.10
1962	6.50	6.52	4.41	1.44	58.73
1963	6.54	7.01	5.15	1.52	58.14
1964	6.78	9.33	7.15	1.69	55.01
1965	5.60	8.93	6.56	1.43	57.29

SOURCE: State Statistical Bureau, 1983.

commune to subsistence where they settled. It was up to those who took them in to support them, and for the migrants – where possible – to contribute to family budgets by participation in sideline activities, or helping on the private plot, for example.

In the spring of 1962 the government planned to send large numbers of urban dwellers to the rural areas. Han Suyin's brother told her that 46 per cent of Beijing cadres were to go to the country to help with the spring sowing and planting, and ensure a plentiful harvest. ' "It's also a way to get the city people fed at village level" I said. Third brother laughed his usual cheerful, noncommittal laugh' (Han Suyin 1980, p. 295).

It is unlikely that remittances from wealthier or from city-based relatives played much of a part in relieving famine, for two reasons. The amount of food which could be brought – mainly from private plots or brigade or commune markets – was comparatively small; it hardly included foodgrains. The prices of what little was available became astronomical as the situation worsened. In addition, as the famine continued, the areas of natural disaster became so widespread that no village within an accessible distance had a surplus for sale to famine-hit families. It seems it was only in the earlier part of the famine, before successive bad harvests eradicated any surpluses, that peasants who were most desperate could barter such private possessions as they had for food.

However, there were a few wealthy city families who may have been able to help their relatives, and who certainly suffered little themselves. A few rich old families, because of their international importance and the Party's hope for a good press at its worst time, were described by a Hong Kong newspaper: 'They drive 1961 Buicks and Chinese-made Tungfeng cars, wear well-cut British suits, smoke British "State" brand cigarettes (much favoured by Mao Tse-Tung himself) and allow their wives expensive coiffures' (White, 1984, p. 160).

When food in some parts of the country became unobtainable, the peasants reverted to eating wild plants, of which there was a traditional knowledge. '. . ."We have starved before", they told each other, this wan face looking at that one. Meantime they found weeds and wild fruits to eat and so saved their lives as they had done before' (Buck, 1984, p. 246). The intensive nature of Chinese agriculture and land use, though, meant that few had access to such plants on a nutritionally significant scale: hence the frequent references, as in previous famines, to eating the bark from trees. As in previous

famines, when 'the bones of the dead were burned and eaten by the living victims' (Thaxton, 1983, p. 181) the most desperate turned to the bodies of those who had already died.

For the majority, though, responses to the famine were of a less dramatic nature. The factories went over to half-time, to conserve the energies of the workers (Han Suyin 1980, p. 290). Rabbits and chickens were bred indoors and quantities of edible vegetables such as cabbages and tomatoes were grown on windowsills or on shelves built near the windows. Liu Shaoqi's secretaries planted vegetables beside his office, and he and his guard planted kidney beans together. Marshal Zhu De and his wife 'were noted among other things for their pumpkins' (MacFarquahar, 1983, p. 304). Because food was in such short supply, gifts of food were offered to appease authority: Zhou Enlai was sent fish, for instance, but ordered his staff to telephone the solicitous officials and criticise them 'for an action which suggested that a man in his position should be given special status and privileges' (ibid). Sometimes gifts were given with greater generosity: after Marshal Peng Dehuai was disgraced and put under virtual house arrest for his criticisms of the Great Leap, he was sent many anonymous gifts of food which he shared with local families and with those who were guarding him (ibid., pp. 236–7).

In order to husband the childrens' strength on a minimal diet, especially during the winter when much nutritive value was burned in energy, schools were closed part of the time and attendance, even when they were open, was not compulsory. Although schooling was free, parents were expected to pay a sum to cover the costs of books and school meals, and to send their children to school adequately dressed; as the famine progressed the real costs of schooling undoubtedly increased. Rare evidence of the impact of famine on education is provided in the study of Nanquan, in Sichuan (Lavely, 1984, pp. 370–1).

Education in this commune was apparently disrupted by two to three years for boys, judging from the trough in the education of boys experienced by members of the cohorts born during the late 1940s. The trough for girls shows a similar pattern but the drop was only about a year, because girls were, in any case, getting less schooling.

ASSESSMENT OF THE RESPONSES TO THE FAMINE

If the typology of responses to famine developed by Hugo (see

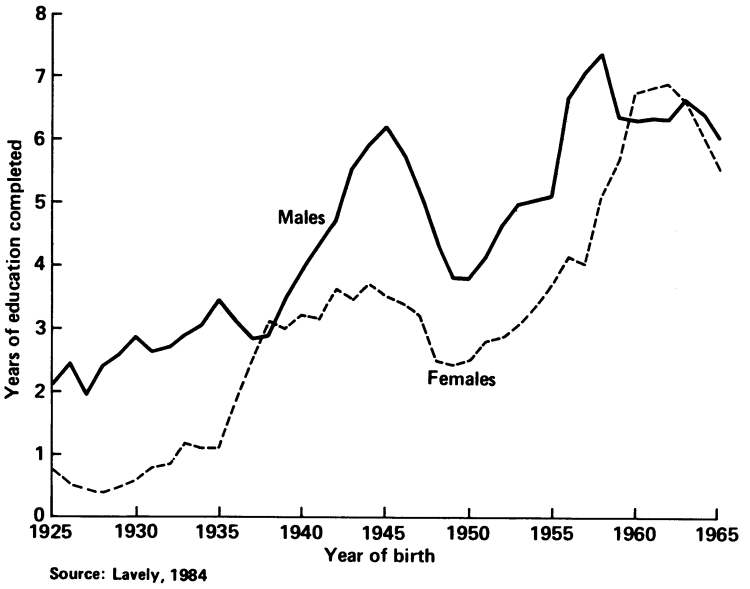


Figure 7.7 Years of Education Completed, by Birth Cohort, for Males and Females in Nanquan Commune Sample

Chapter 2) is examined, it can be seen that the Chinese famine elicited most of the standard ones. The short-term adjustments *in situ* under the headings 'diet', 'increased mortality' and 'reduced fertility' are a reasonable summary of the Chinese experience. Under 'employment' it is possible to add a reduction in working hours, and the reduction in education – both in terms of hours of lessons, and numbers of those attending – merits an additional column here. Additional entries would be needed under the heading of 'outside assistance' to cover the sharing of resources by a brigade or commune, and disbursements from the welfare fund. *Ex situ* short-term adjustments seem to fit less well into Hugo's model, perhaps because so much less is known about migration in China, both in general and during the famine in particular. Commuting and contract migration both seem unlikely, and 'wandering' is clearly worthy of inclusion here. Longer-term adjustments are discussed in the final chapter, as is the role played by the state during the famine. Anticipating a more detailed examination, the analysis does indicate, on the one hand, that in many ways the Chinese responses to famine were the universal responses, visible in China in the past. On the

other hand, there were significant features of the Chinese experience of 1959–61 which were different. These features resulted from the socialist organisation which had, during the 1950s, altered some of the traditional relationships in Chinese society. Village organisation, rather than lineage or clan, had become more important; the brigade, or the commune, became the first source of protection against famine and help in times of shortage. Local insurance through the welfare fund was an additional communal support for the most destitute. The new pattern of organisation may also have limited the options of migration almost as much as official policies designed to control it. Finally, the demographic impact of the famine in urban areas, which was quite high (if less so than in rural areas) and the widespread nature of the disaster, suggest that a centrally-controlled economy did produce a situation in which famine was less economic- or class-based than is frequently the case in other societies.

8 Consequences of the Famine

THE GOVERNMENT AND THE FOOD SHORTAGES

One of the first and most essential tasks for the communist government in 1949 was to ensure the provision of a sufficiency of food for all China's people. In order to achieve this enormous task, some kind of control over agricultural production was required. It has been pointed out (Walker, 1984, p. 41) that the control and mobilisation of large quantities of grain were essential if inequalities between provinces were to be reduced, urban populations supplied from domestic production, and the dire effects of severe fluctuations in output eliminated. The direct, physical controls adopted by the Chinese government during the 1950s were 'an enormous undertaking which presented numerous opportunities for economic and physical miscalculation'. Until 1958, however, such controls operated with considerable success. Enough grain was acquired and redistributed to meet basic requirements and to leave over one million tons for export each year. In addition, grain transfers meant that only one serious local famine was reported throughout the period: in Guanxi, where in the spring of 1956, 550 peasants were reported to have died of starvation and 14 600 to have fled to other places in search of food (ibid., p. 44). This achievement should be seen in the context of wide variations in production in many of the northern and north-west provinces. Hubei, Hunan and Anhui suffered disasters in 1954 which reduced output by 4.6 million tons; Nei Monggol, Shanxi, Shaanxi and Shandong lost 5 million tons in 1956; while in the good year of 1957, Jiangsu, Hebei, Hunan, Anhui and Guangxi suffered combined losses of 4 million tons (ibid., p. 78).

However, if the government did avert local famines, it did not necessarily entirely compensate for them. While grain taxes were reduced in times of crisis, it appears that the remission was not always in proportion to the decline in output. In 1954, for example, Anhui which, together with Hunan and Hebei, was hit by floods, suffered a fall in output of 14 per cent, but grain taxes were reduced by only 4 per cent (ibid., p. 48). Neither do government procurement policies seem to have led to reductions in inequalities of consumption per

head during the 1950s, despite improvements in production which reduced output inequality between provinces.

It appears that the government was walking a tightrope above the enormous opportunities for miscalculation. Annual changes in output, gross procurement, rural sales and net procurement were extremely variable and unstable. They have been analysed in detail by Walker (1984, pp. 45–57) and 'highlight how difficult it was to fix the "right" level of procurement: high enough to satisfy national requirements but not so high as to provoke the peasants to exert irresistible pressure for compensatory grain sales or even to sabotage the entire procurement system'. Given in addition the very limited annual grain surplus of around half of one per cent of output, and the equally limited transportation system, it is to the government's credit that it did manage to contain localised disasters. There is however, little evidence that its policies would have been sufficient to avert a major catastrophe of natural disasters on the scale of 1959–61.

Until 1958 the system did, just about, work. Its collapse from that year has been, as we have seen, attributed to the political mismanagement of the Great Leap Forward (Lardy, 1982), to a sudden lack of balance in the procurement policy (Bernstein, 1984), or to the declines in grain yield following natural disasters (Ashton *et al.*, 1984). Another explanation, wich includes elements of all the above, comes from the Central Committee of the Communist Party which, in 1981, passed a *Resolution on CPC History 1949–81*.

This was an attempt to provide an authoritative assessment of the Party's history and, in particular, the place and role of Mao Zedong. Pointing out that the general line for socialist construction, formulated in 1957, was correct 'in that it reflected the masses' pressing demand for a change in the economic and cultural backwardness' of China, it nevertheless said that the results – excessive targets, arbitrary directions and boastfulness – showed lack of experience in socialist construction and inadequate understanding of the laws of economic development. More importantly, the shortcomings were due to the fact that both Mao and many other local and central leaders had become 'smug about their successes, were impatient for quick results and overestimated the role of man's subjective will and efforts'. The Great Leap and the movement for communes, the report concluded, were launched without careful investigation and study and without prior experimentation.

It was mainly due to the errors of the Great Leap Forward and of

> the struggle against 'Right opportunism' together with a succession of natural calamities and the perfidious scrapping of contracts by the Soviet Government that our economy encountered serious difficulties between 1959 and 1961, which caused serious losses to our country and people. (Central Committee, 1981, pp. 28–9).

Other factors which have been noted in this study as undermining the government's precarious balance on its tightrope include the increasingly unrealistic aspirations and consumption levels of the peasants themselves, arising from a conviction that times would continue to get better and better and that, even if they did not, the state would provide. To understand the complex web of circumstances leading to the crisis of 1959–61, it is also necessary to look a little more closely at how far the state was aware of the emerging crisis – and why it may have been slow to recognise it – as well as at the measures it took to contain the famine or to avert similar ones in the future.

INITIAL REACTIONS TO THE FAMINE

In this examination, the role of Mao Zedong and of the state cannot always be taken to be synonymous and indeed, internal power struggles are a factor which may have contributed to the leadership's delay in recognising the magnitude of the disaster of 1959–61. As early as 1956, following Kruschev's denunciation of the Stalin 'personality cult' and the introduction of collective leadership in the Soviet hierarchy, there had been an attempt to broaden the leadership of the Chinese Communist Party. Mao – previously Chairman of the Central Committee, the Politbureau and the Secretariat – remained Chairman of the Central Committee, but now had four vice-chairmen with Liu Shaoqui as the first of them. The General Secretary of the Party – who now also controlled the Secretariat – was Deng Xiaoping. Mao, Deng and the four vice-chairmen made up the Standing Committee of the Party. Liu Shaoqui and Deng Xiaoping were far from impressed with the programme of mass movements, the Great Leap, and the overnight introduction of communes, favouring a more cautious approach and the development of an industrial base for the country's development.

First reactions to the Great Leap and to the introduction of communes crystallised at the Central Committee's 6th Plenum, at

Wuhan in November 1978. The Party was preoccupied with the question of whether the commune movement could result in a full transition to communism in a few years, or whether it was already over-ambitious. As already noted, the eventual decision was to retreat from full communisation, and embark on a campaign of 'rectification' of the more ambitious and levelling efforts of local cadres. Despite Mao's references to the current problem of 'false reporting', he – and others at the Plenum – apparently continued to believe in the alleged record harvest, claiming that the grain output had doubled over that of 1957 to 375 million tons, though he at first suggested that to be on the safe side, the published claim should be of a 90 per cent increase. As new and further inflated figures continued to come in, he decided to publish the 375 million figure, considerably below the latest total, based on provincial assertions of output for the year, of 430 million tons (MacFarquahar, 1983, pp. 121–2).

If the 6th Plenum was concerned with the rectification of the excesses of the commune movement, the question of food was already beginning to surface elsewhere. Letters to relatives abroad detailed the urban food shortages of the winter of 1958–59. 'Pork is priced at one yuan a catty. There is absolutely no fish from the open market. In the black market the price is about 1.3 or 1.4 yuan a catty' wrote one. 'Those who work will get two ration units worth of supplemental food. Actually it is impossible to buy supplemental food ... shrimp sauce and other such items are not being sold' complained another (ibid., pp. 138–9). Nor were there vegetables, whose supply was restricted to sick people with certificates.

The First Secretary of Guandgong province (original home of most of the overseas Chinese receiving these complaints) undertook an investigation in one commune, to try and answer the questions of whether the harvest really had been good and if so what had happened to it. He found that there was indeed plenty of grain, but that it was being hoarded. One brigade had suffered losses of income from joining the commune; officials allowed it to conceal grain, money and supplementary foods which should have gone to the commune: 5588 tons of grain and 12000 yuan were uncovered. Another brigade had hoarded grain to secure its food supplies in case the commune system collapsed, and also to have a surplus which permitted it to concentrate on the production of the more lucrative supplemental foods. After an intense campaign of threats and other pressure, more and yet more grain was 'found', though some of it may not have been genuinely surplus to local allocation. A

province-wide telephone conference announced his findings and the estimate that more than 3 million tons might be concealed in the province as a whole. (ibid., pp. 138–42).

The activities of the Guangdong First Secretary, and those of others like him, helped the leadership to continue to assume that the problem was one of the distribution of grain to the cities. In the winter of 1958–59 this was, despite isolated poor harvests following local disasters, probably broadly true. The belief was accompanied by a parallel assumption, however, which was unfortunately less tenable. This was that the 1958 harvest had been extraordinarily high; had all been gathered in; and that the reserves being concealed by the peasants were massive. Mao estimated that the concealed grain amounted to 15 per cent of output, and claimed that the peasants had even buried their output deep and posted sentries to guard it (ibid., p. 152).

Mao knew perfectly well that the determination of the peasants to avoid reporting their full grain yields was deeply embedded. While it may have reached unusual proportions during the Great Leap and the famine, it was, as we have seen, a long-standing tradition. That tradition continued after 1959–61: it does so to this day. In 1971, Hinton reported that peasants almost always under-estimated the amount of grain actually produced. 'The more grain they reported, the larger the tax bite and the more they had to sell the state as its legitimate share' (Hinton, 1983, p. 739). He gave as an example Kuyi Brigade in Shanxi, which one year had failed to report more than 50 000 catties of wheat. A woman from the brigade who had married outside it but refused to move away received her official *per capita* share but not her share of the hidden surplus. She complained to the commune office and the commune secretary invited the brigade leader to a meal with plenty of liquor, during which incautious boasts about the size of the crop were made. As a result, the brigade had to pay up – but no action was taken against it.

That the peasants continue to falsify crop-yield reports so as to minimise tax and procurement has recently been shown from aerial surveys which reveal, in some parts of China at least, actual cultivated areas larger than those reported (Donnithorne, 1984, p. 60).

In preparing this book, only official reports of grain production have been used, reanalysed by the Chinese or others to remove the exaggerations of the Great Leap period. Such adjusted reports, whether from commune, province or state sources, are probably

almost universally low: unfortunately, they are all we have. Mao's estimate of 15 per cent under-reporting may have been too high, but it would be unwise to assume that any stated levels of grain availability during the famine actually represent the maximum available to the peasants.

Mao himself seemed to sympathise with the 'departmentalists' – the brigades which attempted to hang on to their own production – as he clashed with those provincial officials who tried to extract the missing grain, and warned, in a succession of speeches, of the dangers of too much egalitarianism and of cutting off the heads of the richer brigades and handing them to the poorer ones (MacFarquahar, 1983, p. 147). His approach was one of practical politics: it would have been the height of folly to challenge, directly, the overwhelmingly peasant mass of the country. But it was also based on the conviction that even the poorer brigades and communes had a sufficiency of grain. As a result, he became less than enthusiastic about the 'chessboard' concept for grain allocation in China, which would have involved still higher procurements and massive grain movements.

Deng Xiaoping and the Secretariat, apparently less convinced of the size of the harvest and the amount of grain left in the rural areas, instructed the New China News Agency to collect information on the problems of communes. As MacFarquahar (1983, p. 162) points out, that he felt it necessary to supplement party channels of information about what was going on at the grass roots 'is an interesting indication of top-level distrust of the reports being received. From the sparse material available on the secretariat meeting, it would appear that party leaders were by now worried about production problems and exaggeration of output figures'.

During these months of late 1958 and early 1959, the leadership was also preoccupied with other issues. The next stage of the process of creating an hierarchy which would survive Mao's death was to be the promotion of Liu Shaoqui to Head of State, adopted at the 6th Plenum in December 1958. Despite Mao's later complaints that he was treated 'like a dead man at his own funeral' it seems that, at the time, it was part of his own strategy for the future; nevertheless, it may have left him somewhat sensitive about the remaining sphere and extent of his influence.

In March 1959, a revolt began in Tibet: 'the most important post-1949 episode in the age-old struggle of the Chinese to control the non-Han peoples along and within their inner-Asian frontiers' (MacFarquahar, 1983, p. 173). Funds, supplies, transport and

attention were diverted from domestic issues to meet this new problem.

Pressure from his more cautious colleagues and growing criticism of the Great Leap and of the communes had forced Mao, by the time of the central work conference in July 1958, which preceded the 8th Plenum in Lushan, to back down on most of the issues he had espoused the previous year. There was strong criticism of those who had exaggerated or otherwise flouted the law or discipline, and further criticism of egalitarianism. 'Semi-anarchism' created by too much zeal on the part of lower-level cadres was to be restrained by a restoration of centralised powers in many areas. By now, revised grain estimates for 1958 had made it apparent that earlier claims had been nonsense; by now it was also apparent that the harvest of 1959 would not be a good one. There had been a long dry spell in the north-west, damaging early crops and creating problems in sowing later ones. Floods had affected a number of other provinces, notably Guandgong. The army was faced with diverting military transport to grain shipment duties, at the expense of its operations in Tibet. None the less, it does not seem that the leadership believed that a serious crisis was in the making, or was really aware of how swiftly conditions were deteriorating.

Complacency was finally challenged by Marshal Peng Dehuai. The son of a poor peasant, his brother died of malnutrition and the rest of the family had to beg their food. Peng became a child labourer in a coal-mine before enlisting in the army, where his talents earned him a series of promotions. Anarchy and warlordism during the 1920s turned him into a communist and his forces into the Fifth Red Army, joining Mao in the Hunan–Jianxi border areas. Peng became Eighth Route Army Deputy Commander against the Japanese; Commander-in-Chief of the First Field Army that liberated north-west China, and eventually Commander of the Chinese People's Volunteers in Korea (Shanor, 1985, pp. 33–4). He was a blunt and outspoken man who once, outraged by orders received during the Korean war, rushed back to China and – brushing aside the guards – into Mao's bedroom where he harangued him until Mao gave way remarking, 'Only you, Peng Dehuai, would burst into someone's bedroom while they were sleeping in order to argue your case' (MacFarquahar, 1983, p. 195).

In the months immediately preceding the Lushan conference, Peng Dehuai had undertaken a number of inspection tours around the Chinese countryside, and, as has already been described, had been appalled by the conditions which he found. The atmosphere of

unreality alarmed him still further. He decided to write a long letter to Mao, reporting on what he had seen: the uselessness of much of the iron and steel produced on home-made smelters; the destruction of cooking pots and household and farm implements; and above all the drastic food shortages which were appearing. He had also talked to other senior CPC cadres, several of whom began to make critical speeches in public. It has been suggested (MacFarquahar, 1983, pp. 176–7) that one reason for Marshal Peng's challenge was that he supported the claims of Marshal Zhu De to be the new Head of State, rather than Liu Shaoqui.

Mao, recognising that 'some comrades were wavering' and that the critics might become a serious force, promptly counter-attacked in a speech which labelled his critics as bourgeois rightists, admitted a number of mistakes (but refused to take sole responsibility for them, thus involving other leading cadres in the defence) and insisted that the gains of the communes and the Great Leap outweighed the losses. He made it clear that his colleagues must choose between that view and Peng's belief that the movement had been a disaster, and threatened that if he did not get full support, he was prepared to 'go to fight guerilla war' (MacFarquahar, 1983, p. 222). Faced with such a choice, the opposition collapsed. When the full 8th Plenum opened, Mao returned to the attack, calling for unity against those who attacked and sabotaged the general line. Peng was forced to make a full self-criticism before the Central Committee, which passed a resolution that he headed an anti-party clique. He was deprived of his post as Defence Minister and was sent to live, virtually isolated, in a dilapidated house on the outskirts of Beijing, where he studied and set up a mini-experimental farm. Not until 1965 was he considered rehabilitated and assigned to a post in Sichuan, as Deputy Chief for national defence construction in south-west China. The following year he was summoned back to Beijing to face the Cultural Revolution and submit to over 130 interrogations and torture before his inevitable death in 1974.

The story of Peng Dehuai helps to explain the delays of the leadership in discovering the truth about the level of Chinese grain reserves and thus, in the event of a second bad harvest in the autumn of 1959, the likelihood of widespread food shortages. Peng's attack was perhaps ill-timed, in that there had already been a recognition of the mistakes of the Leap and an abrupt turn around in policy so that his criticisms were, in a sense, superfluous while his warnings of future hunger became lost in the wider issue. His challenge, however,

put Mao in a position where he had to counter-attack, and led to a situation in which any further criticism would only be construed as coming from those who wished to betray the revolution.

In addition, the leadership was, once again, preoccupied with foreign affairs issues. The quarrel with Russia was intensifying, and just before the Lushan conference opened, the Russians reneged on their agreement to help China with nuclear weapons technology. They had already been privately critical of the Chinese determination to set up communes; now, just before Mao's counter-attack on Peng, the text of a public speech by Kruschev was reported, which said that those who had flirted with the idea of communes in Russia in the 1920s 'had a poor understanding of what Communism is and how it is to be built' (MacFarquahar, 1983, p. 226). Two days later Vice-President Nixon arrived in Moscow to open the first US exhibition there, and Krushev's return visit to the USA was announced shortly afterwards. Detente with the West and a breakdown in Sino-Soviet relationships were serious issues. In addition, the fact that Peng had been on a goodwill visit to Russia earlier in 1959 helped to fuel suspicion of his motives.

And so the natural disasters of 1959 went almost unheeded. The continuing habit of deception resulting from the Great Leap meant that some areas were still claiming splendid harvests despite the impact of drought and flood, so that the government assumed that little damage had been done to crops. The leadership continued to believe that there were huge reserves of grain in the countryside, which could be tapped for the areas in which the harvests were admitted to have suffered. Procurements during 1959, designed to relieve these grain-deficit areas and feed the cities, were set at the highest levels ever and, based only on estimates of the year's production, were completed in record time (Bernstein, 1984, p. 355). The reality – that the harvests had been extremely poor, that the peasants, during this difficult year, had already used up most of their reserves from 1958 (which were much smaller than the leadership assumed and in some cases did not exist at all) and that the procurements had left the inhabitants of some areas without enough to eat – had not yet become visible. At the end of 1959, the Chairman of the State Planning Commission was admitting the serious agricultural calamities which had affected output, but was still talking of a new leap forward in 1960 and the continuing need for mass movements and the struggle against rightism.

External preoccupations did not end in 1959. They intensified and

delayed still further a recognition of what was happening at home. The revolt in Tibet led to the strengthening of Indian forces along the border and, finally, to their setting up of a post just within the Chinese side of the MacMahon line. As the border dispute gradually escalated into war, the Russians, with an eye on Western opinion, tried to stay neutral, thus confirming Chinese suspicions of having been sold down the river by Moscow. Over the next few months the quarrel between the two powers became increasingly vitriolic and peaked in Russia's disastrous decision in July 1960 to withdraw all advisers, almost overnight, from China. 'The effect of this withdrawal was clearly to inflame Chinese nationalist sentiments, to stiffen Mao's determination to have his own way.... Deng Xiaoping characterised the Soviet position as insisting on a total disavowal by the Chinese of their domestic policies. Few native opponents of the Leap would have agreed to such humiliating terms' (MacFarquahar, 1983, p. 282).

Foreign affairs were the focus of six Central Committee conferences in 1960 and 'probably a major topic of discussion at other central meetings' (MacFarquahar, 1983, p. 293). The two leading officials of the party Secretariat spent much of the period from June to December at international meetings, and their remaining time presumably consulting with colleagues about those meetings. One quarter of all Politbureau members were in Moscow for a month for the international communist parties meeting. Mao admitted, in 1961, that this preoccupation with foreign affairs had prevented the Chinese leadership from paying sufficient attention to domestic issues.

The Chinese economy, and Chinese development, inevitably suffered from the withdrawal of almost 1400 experts and the tearing up of 343 contracts and supplementary contracts and the abandonment of 257 projects of scientific and technical cooperation. In addition, however, 1960 was the worst year for natural disasters, and the year in which remaining grain reserves in the rural areas, excessively depleted during 1959 by ill-informed procurements, finally dried up completely.

The mood of – perhaps slightly qualified – optimism could not survive the devastation of drought and floods. The National People's Congress, at its meeting which opened in late March 1960, called for 10 per cent increases in grain and cotton output and a 35 per cent increase in the stock of pigs. State support for agriculture had been low throughout the 1950s, although there had been small increases in

Table 8.1 State Aid to Agriculture, 1953–64

Year	*Share of total state aid to agriculture in total state expenditure*	*Share of state investment in agriculture in total state capital development*
1953	5.5	13.8
1954	5.6	11.1
1955	5.6	10.9
1956	7.5	14.4
1957	8.1	n.a
1958	n.a	10.5
1959	4.1	10.5
1960	4.1	13.0
1963	16.0–18.0	n.a
1964	16.0–18.0	n.a

SOURCE: Hsu, 1982.

both aid to agriculture and investment during the pre-famine period, but the years 1958–59 show a considerable reversal of that trend. In 1960, there was the beginning of a new, but still small, effort to increase the share of state investment in agriculture. During 1959–60, total state aid to agriculture amounted to 5 billion yuan, while total bank loans to the agricultural sector were 6.7 billion yuan – the highest for any period since the revolution (Hsu, 1982, p. 110).

The Chairman of the State Planning Committee advocated, at the summer work conference of China's leaders, a new policy of adjustment, consolidation and improvement. Little notice was apparently taken of his suggestion there, so he repeated it in August to Zhou Enlai who endorsed the policy with minor modifications. The planners regained operational control of the economy with a package of retrenchment measures which were presented to Mao; there was no longer any option but for him to agree to it. MacFarquahar suggests (1983, p. 324) that his subsequent circular urging the abandonment of industrial projects and the return of the labour force to grain production may have been less a directive than an *ex post facto* endorsement of initiatives which some provinces had already undertaken.

Factories were closed and peasants returned to the land. The position of the brigades as the basic unit of ownership and accounting was reaffirmed. A higher proportion of collective income was to be distributed to the peasants, who were encouraged to cultivate private

plots and take up sideline occupations for their own profit. Rural markets were resuscitated. The right to rest-days was once again guaranteed. In a final recognition that there was no more grain to be found in China, imports were undertaken on a large scale.

It is sometimes suggested that foreign aid should have been requested, or at the very least that the offer of famine relief made by the International Red Cross (Ashton *et al.*, 1984, p. 631) should have been accepted. Such a view ignores the contemporary political situation. China was not a member of any international body such as the United Nations which could have mobilised aid on an effective scale. Few of the governments of the weather nations, apart from Britain and the Scandinavian countries, had recognised the People's Republic. The relationship between the USA and China, bad since the American-supported Guomindang had been driven out by the Communists, had deteriorated with the bombing of Chinmen (Quemoy) in 1958. The Tibet revolt, the increasing tension along the Indian border and the deepening split with Russia increased Chinese vulnerability almost to crisis point. It also has to be remembered that while the existence of famine was known outside, there was no agreement on its severity. A request for aid would have had to reveal the full facts. In circumstances in which comparatively limited possibilities of famine relief had to be balanced against the much greater risk that other nations would take advantage of the government's terrible weakness resulting from famine on such a scale, it is difficult to see how a different decision could have been made. That having been said, it should be added that a country in which people found it difficult to admit hunger even to family members or friends, as we have seen, would have been unlikely to 'stoop to beg for food' from the USA or anywhere else, as the Foreign Minister Chen Yi put it (ibid., p. 631).

LONGER-TERM REACTIONS TO THE FAMINE

In the early 1960s, the leadership was acutely aware of the dangers posed by the resurgence of famine to peasant support of the revolution. 'The government apparently feared that the gratitude of former poor and lower-middle class peasants was rapidly subsiding. Closely associated with the Chinese concept of gratitude ... are notions of debt and loyalty' (Unger, 1984, p. 129). Mao's directive of late 1962 – 'Never forget class struggle' – was an attempt to remind

the peasants that life was still better than before land reform, and that the recent crisis did not outweigh the gains of the revolution. Practical, as opposed to ideological, measures were also urgently necessary to assist in an agricultural recovery.

Some 40 000 local markets were re-established by 1961 and a year later a quarter of all rural commodity transactions were carried out through markets. Procurement prices were raised and production planning below the county level abandoned. Price increases included a 25 per cent rise in cereal prices, but the prices of various economic crops – peanuts, oilseeds and tobacco – increased even faster, and their output, relative to cereals, grew faster still. Specialised production and increased internal trade flows based on these price increases were the reasons for the recovery. (Lardy, 1983, pp. 44–5).

The policy of 'agriculture first' was originally formulated in 1959. It did not involve, as we have seen, major shifts in direct state support to agriculture, but it did alter priorities for growth within industries, emphasising, for example, investment in chemical fertiliser plants and agricultural machinery. The policy also led to the promotion of the 'five small industries' (cement, coal, iron and steel, chemical fertiliser and agricultural machinery) in decentralised rural production programmes. Such programmes were implemented very much more cautiously than those introduced during the Great Leap and considerable effort went into improving small-scale technologies, developing appropriate blueprint designs and setting standards for product quality (Wong, 1982, p. 140).

Among the positive outcomes of the period of the Great Leap, now often overlooked, was that it was highly educational (Wiens, 1982, p. 108). Large numbers of agricultural scientists and technicians spent time in the rural areas instead of in laboratories and many experiments aimed at improving existing peasant agricultural practices were attempted. 'A consensus emerged that a multidisciplinary systems approach, focusing on the total readjustment of the farm production system and giving special attention to the problems of low-yield areas, should be the primary focus of the over-all research programme. In short, by the end of the Great Leap, the level of agricultural knowledge was vastly improved'.

As a result, a considerable number of technical innovations came into being as soon as the disruptions of the famine were over. These included the distribution of dwarf rice varieties with a high-yield potential; the introduction of new hybrid maize varieties; a coordinated seed replication system at national level; the develop-

ment of cheap well-drilling techniques and mass-produced submersible pumps; and the production of mechanically-powered fodder shredders. While during the 1960s the main gains from such innovations were in the southern regions of China, and thus often exacerbated regional differentials in economic growth, they nevertheless offered prospects of greater agricultural yields.

From 1960 onwards, a return to greater centralisation in some aspects of planning (including grain quotas and their collection), on the one hand, along with the encouragement of local industries, sideline enterprises and private plots, and the return to more peasant markets, helped to bring about an increased availability of food. Unfortunately, the very high levels of population growth during the 1960s, which resulted in an additional 199 million people between 1962 and 1972, meant that the gains were, quite literally, swallowed up by the extra mouths.

The lesson that seems to have been drawn from the famine was that the government would continue to have great difficulty in coping with large-scale natural disasters through any system of redistribution. Instead, the policy was to be the achievement of local grain self-sufficiency. 'Dig caves deep, accumulate grain everywhere' became, after the famine, one of Mao's most enduring slogans. Such a policy was intrinsically attractive to the ex-guerilla leadership, which also saw it as a vital defence in any protracted war. 'The concept of local self-sufficiency was one element of a military strategy postulated on a war of attrition fought by decentralised, self-sufficient regional forces' (Lardy, 1983, p. 50). In addition, it fitted well with Chinese pride and with other exhortations – especially during the Cultural Revolution – to self-sufficiency in a whole range of activities.

Such a policy of local production and storage of grain had the further advantage of limiting the level of procurements the government needed, and thus averting peasant resentment and concealment of grain stocks. The government had become extremely distrustful of statistics as a result of the Great Leap, and, although reporting systems continued to exist, they seem to have been viewed with some scepticism. With the outbreak of the Cultural Revolution, many higher-level systems collapsed and many of those needed to analyse the statistics were purged. It was not until the mid-1970s that a real attempt was made again to acquire a body of trained analysts and to systematically collect and rigorously interpret local reports. Without good data, a sophisticated procurement system of the kind

necessary for a 'chessboard' strategy became virtually impossible.

While agricultural investment was increasingly concentrated in the grain-growing areas of 'high and stable yield', even in areas which were not well-suited to grain some acreage was to be sacrificed to the vital crop despite the high costs involved. One outcome was the declining profitability of commercial crop production, which in turn led to declining allocative efficiency within agriculture and declining *per capita* consumption of many non-cereal foods. The use of quantity – rather than price – controls shifted the burden of achieving self-sufficiency from the state to the peasantry. The cost of self-sufficiency simply represented 'a tax imposed on peasant producers' (Lardy, 1983, p. 29). It also obscured the high cost of attempting to achieve self-sufficiency, and an increased tax burden on the peasants was considerably less salient to the leadership than the substantially-increased domestic budgetary outlays that would have been required to raise output through price incentives. A determination to ensure subsidised food for the urban workers meant that increases in the prices paid for agricultural products were only limited, and insufficient to encourage additional production or marketing, or both. A lack of consumer goods which resulted from the continuing determination of the government to establish a heavy industrial base may have prevented the peasants from excessive expansion of consumption: it also removed another incentive to produce more.

The area sown to grain in China actually declined in absolute terms, from its high point in 1957, by about 10 per cent during the 1960s and early 1970s, and grain as a proportion of total sown area also declined slightly over the same period. Despite increases in yields, the rapid growth in China's population kept *per capita* grain supplies at slightly below the level of 1957 (State Statistical Bureau, 1983, pp. 154, 184). Although there were increases in the production of some other sources of nutrition, notably meat, fruit and sugar, Lardy (1982, p. 153) concluded that, when weighed against declines in edible vegetable oils and beancurd, it was unlikely that these improvements would have increased average calorie intake in the mid-1970s above the level of 1957.

The costs of the policy of self-sufficiency were also born unequally by different regions. Peasant incomes in regions which were not self-sufficient in cereals declined relative to the income of peasants in areas with a comparative advantage. Economic differentials between communes and areas increased after 1957 (Vermeer, 1982a; Griffin,

1982; Vermeer, 1982b). The policy of making communes primarily responsible for mobilising the financial surpluses required for their own development meant that grain surplus areas could benefit more easily from rises in prices and output of farm products, and so generate their own resources for investment in improved agricultural techniques and more profitable sidelines and small industry. Such communes have been described as moving into a 'virtuous circle' (Paine, 1981, p. 159). Poor, grain-deficit communes, on the other hand, benefited much less, struggling to increase output sufficiently to match the higher population growth rates they tended to face because of their economic backwardness.

Income differentials were not a full indication of differences in living standards because of the efforts to provide a minimum consumption floor, the use of rationing for necessities and 'social pressures discouraging luxury private expenditure and encouraging the use of collectively-owned durable goods' (Paine, 1981, p. 162) as well as subsidised or free health and educational systems. However, in 1980 it was reported that around 100 million peasants each year had a grain ration of less than 150 kg, while even adequate drinking water was still not available for 40 million people. Around 100 million peasants subsisted on state relief: probably the majority of them were those with a grain ration of less than 150 kg (Paine, 1981, pp. 164–5). The continuing vulnerability of peasants to natural disaster was noted by Lampton (1978, p. 531) who showed that in some areas provision of commune cooperative health facilities declined after droughts in 1972.

The interests of the peasants were increasingly ignored once they had recovered from the famine, as Mao became more and more concerned with efforts to prevent the progress of continuing revolution becoming bogged down by a new and complacent bureaucracy. The disturbances of the Cultural Revolution impinged far less violently upon the peasants than upon cadres and those in urban areas. There are of course significant exceptions to this generalisation. Hinton (1983) describes a village and its commune within which the Cultural Revolution was traumatic; and the turmoil in Sichuan, which resulted in that province being closed to foreigners until almost the end of the 1970s and which appears to have wrecked its agricultural economy (Donnithorne, 1984), has yet to be explored. Nevertheless, it is broadly true that the Cultural Revolution did not involve the mass of the peasants in anything like the way they had been involved in the Great Leap Forward, and that changes to the

organisation or the economy of their activities were nowhere near so substantial as the changes they had faced in the 1950s. The system of economic planning and management persisted in principle, with only minor changes, until the late 1970s (Paine, 1981, p. 175).

Even the movement of the early 1970s towards a more 'advanced' socialist system involving new attempts to shift functions to the brigade and ultimately to the commune, the abolition of private plots and so on, had an ambiguous and elastic time-scale quite unlike the target-setting campaigns of 1958. This was the movement to 'learn from Dazhai', the model brigade which was, after 1976, to come under attack for making false claims. Even at the height of its fame, however, it was apparent that many communes simply paid lip-service to the movement to learn from Dazhai. The evidence of how far local cadres and peasants actually implemented policy swings remains contradictory. It seems likely that in some areas many of the changes were implemented by zealous cadres, while in others they were tacitly ignored.

DEMOGRAPHIC CONSEQUENCES

One serious, if not altogether surprising, consequence of the famine was the demise of discussion of population issues. They had long been controversial in China, involving as they did questions of nationalism, defence and Marxist theory, but during the later 1950s there had, at least, been serious discussion about the need for population policies and planning (Kane, 1987). These discussions were given a focus in 1957 by the contribution of Ma Yinchu, President of Beijing University and a member of the Standing Committee of the National People's Congress. He, and others, had advocated the expansion of family planning and controls over population growth in the interests of improved opportunities for development. In 1960, when China's growth rate became negative – and three years after he had originally put forward his views – they suddenly became unacceptable, and he was accused of 'Malthusianism' and disgraced. Far from being concerned about additions to China's population, the government was having to face a soaring mortality rate. Ma Yinchu's downfall – together with a lack of demographic analysis of population statistics which left many planners unaware of their implications – made all discussion of population planning unacceptable for more than ten years. In

keeping with prevailing socialist doctrines, though, contraception and the benefits of family planning continued to be advocated for their health value and for the emancipation of women.

Theory about the demography of famine holds that not only does fertility increase immediately after a famine, but also that awareness of the threat of recurrent famine keeps fertility high. People, it is argued, whose lives are attuned to the possibility of mortality crises will tend to have large families in the hope that some, at least, of their children will survive such a disaster. The evidence from the 1959–61 famine in China suggests that this is not an immutable pattern of

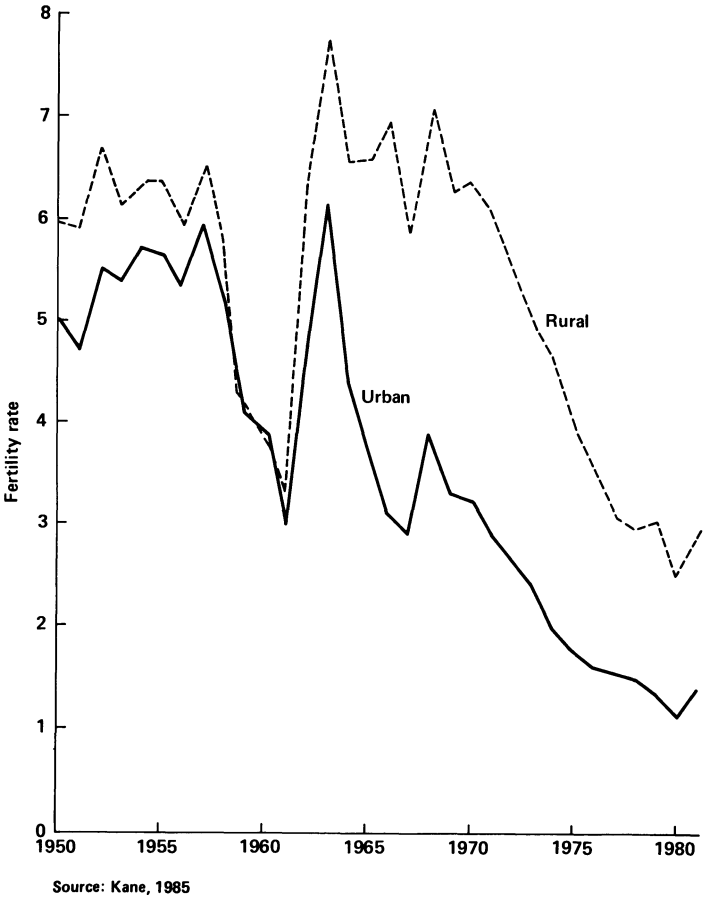


Figure 8.1 Rural and Urban Total Fertility Rates, China 1950–81

behaviour. In urban areas the peak of fertility succeeding the famine was very short-lived, followed by a steady decline. Even more tellingly, rural fertility had begun to fall within a decade of the famine and its decline has been equally dramatic.

The Chinese government's introduction of family planning measures, first in urban and then in rural areas, from the 1950s onwards, together with improvements in such things as health leading to greatly improved expectation of life, education and women's participation in work and in decision-making, seem to have been enough to initiate a fertility decline. The decline was, in turn, strengthened by the increasingly explicit policies for a reduction in total family size which were introduced from around 1971. This pattern can be found even in areas which were notably badly hit by deaths due to famine, such as Shifang county in Sichuan (Lavely, 1984, p. 371) and Huaibei Plain, Anhui (Yang Quanhe, 1985, p. 77). Thus, while the theory of continuing high fertility among those at risk of famine may hold good in areas or countries where there is little evidence of major social change, it is apparent that the practice may give way, quite quickly, where people's circumstances alter. Such alterations in circumstances may not even need to include dramatic changes in food supply or economic gains to individual families, neither of which occurred in rural China.

Some of the reasons why peasant fertility behaviour may have changed despite continuing vulnerability to natural disaster can be gleaned from an examination of what happened in the serious droughts and floods which hit Hebei and Hubei in 1980–81 (UNDRO, 1982).

1980–81: AVERTING A FAMINE

Floods in Hubei in 1980–81 led to an estimated 18.4 million people losing between 30 and 80 per cent of their average annual income, while 13.7 million in Hebei lost about 40 per cent average of their annual income as the result of drought. Hubei also lost 210 000 houses while a further 300 000 were damaged, and 150 000 water conservancy projects were washed away or partially destroyed; 20 000 mu of timber were washed away; 300 000 mu of fish-farms were destroyed, and much livestock was lost.

The administrative mechanisms for disaster relief are that production teams report the damage suffered, population affected, esti-

mates of crop losses, anticipated food deficit and how much can be covered from local reserves. The data are collated and passed to the Ministry of Civil Affairs. Task forces are set up by the provincial government at provincial, municipal, prefecture and county level, and are composed of representatives of the ministries and bureaux involved, so as to ensure coordination of relief. Food quotas for relief are decided for each level down to the production team. Team leaders produce a tentative relief distribution plan by household and public discussions are organised before the plan is finalised, certified by the production brigade to which the team belongs, and approved by the commune. Individual rations within the government-approved average of 400 grams of grain a day, or approximately 1400 calories, are determined in the light of need and contribution to production: thus the elderly, and children, receive less than an adult agricultural worker. Rations normally consist solely of grain. Ration cards or food coupons are then issued to the households involved and families collect their supplies from a shop-cum-distribution point. Detailed and accurate records are maintained at the shop and are logged in the individual ration book against a signature of receipt.

In 1981, the Chinese government for the first time requested the services of the UN Disaster Relief Coordinator to assess the damage in these two provinces with the aim of obtaining help from the United Nations system and from individual countries. Contributions began to arrive in March 1981 and were distributed separately. In areas where both government relief and international relief were distributed, separate ration books for each source of relief were printed and distributed, and it seems that both administrators and the peasants themselves were completely clear about which relief came from where. International aid, though appreciated, was only a small fraction of the government's own relief supplies, though confirmed food pledges did enable the Chinese to release food supplies from existing reserves in the knowledge that they could be replenished.

Compared with the three years taken to repair the damage after the severe floods of 1954, rehabilitation from the effects of the 1980–81 Hubei floods was virtually completed within a year largely through 'mass participation and mutual help' (ibid., p. 18) and the assistance of the army. Mass mobilisation was also used in drought-stricken Hebei to instal new pumps and dig new, or improve existing, wells in addition to transporting water, but the drought here took longer to combat.

The UNDRO mission in 1982 looked at the health status and social

Table 8.2 Jun Zhou Prefecture, Hubei: Incidence of Seven Selected Diseases 1979–81

Disease	*1979*	*1980*	*1981*
	(numbers of reported cases)		
Dysentery	22170	44351	20000
Intestinal parasites	77614	223807	178569
Typhoid	1095	1368	*c.* 1300
Malaria	56319	112182	60000
Rickets	2381	28571	19841
Malnutrition	1190	42857	21825
Trachoma	16666	104761	82340

SOURCE: UNDRO, 1982.

services of the affected populations of the two provinces. In Hubei, two counties in the prefecture of Jin Zhou (population 10.6 million) were particularly severely affected by floods. Schistosomiasis is endemic in the area, and before 1980 about 100000 cases were recorded annually, including chronic or reinfected cases. Following the floods more than 400000 people were examined and 200000 found to be affected; 170000 recovered after immediate treatment. The incidence of several diseases increased markedly during the crisis but fell again in the subsequent year.

There were also deaths amongst patients with B-type encephalitis and severe hepatitis. Almost a third of the women who were treated for gynaecological problems were suffering from irregular menstruation, caused, it was believed, by immersion and shock as well as low calorie intake.

Nutrition-related morbidity, as well as malnutrition itself, evidently increased considerably during the crisis. The figures for malnutrition and rickets given above refer to children, whose level of malnutrition was measured by anthropometric measures, mainly weight-for-age. Amongst the total population, grade 1 (not more than 10 per cent below average) or grade 2 (10 to 40 per cent below average) malnutrition was diagnosed in more than 221200 people immediately after the floods. A further nutritional hazard affected some of those who received food relief: incorrect preparation of unfamiliar milk and supplemental mixtures at first caused cases of diarrhoea and other complications, though information from the health units quickly corrected the problem.

The figures emphasise, once again, the borderline nutritional status of the Chinese peasant. There is no dietary margin for a crisis. The

increase in conditions such as rickets suggests that even before the floods many children lacked a nutritionally balanced diet.

The large number of people who suffered from infectious diseases following the floods constituted, as the UNDRO mission pointed out (ibid., p. 26), an 'expanded pool of infection for further spread of these diseases'. No major epidemics did, however, break out and the increased incidence of diseases was contained. The immunisation programme remained intact and continued to function as usual. 'It is clear that the health service network of the region has been able to continue to operate effectively in spite of the serious disruptions [including the destruction of hospitals and other facilities] and increase in patient load, and has successfully brought the health status to normal levels. This is a tremendous commendation for the system which has been set up. . .'

Hebei has a low standard of living and poor water supplies; only 50 per cent of its population has safe drinking water. The drought itself resulted in many of the sources of water becoming 'unsatisfactory' and the shortage of grain stalks and other crop residue used for fuels – in one prefecture fuel shortages amounting to 160 000 tons of coal-equivalent – made the boiling of water difficult. The number of cases of hepatitis doubled during the drought. In Hen Shui prefecture, amongst the poorest in the province, 80 per cent of the hepatitis cases occurred in children under the age of 15. The incidence of typhoid in the prefecture increased from 34 cases in 1979 to 251 in 1980, but the incidence of dysentery, surprisingly, declined.

The nutritional status of the population in the province is generally poor, with meat seldom included in the diet even at the best of times. Fresh vegetables are available in summer during the good years (ibid., p. 30). During the drought, some households sold furniture to buy additional grain and trees were stripped of their leaves for food. The drought led to widespread malnutrition among children, with rickets and anaemia appearing, as well as bleeding gums from vitamin C deficiency, night blindness and angular stomatitis attributed to Vitamin B deficiency. The return of the drought, in the winter of 1981–82, delayed the province's efforts to recover.

Because of the destruction of crops, production brigades and teams were no longer able to afford, in Hen Shui prefecture, to pay for the treatment of their members through the cooperative medical system. Even in normal years, the prefecture hospital incurs debts of some 15 000 yuan from outstanding accounts for patient services, which are reimbursed by the government. In 1980, the amount increased by a

third, but the staff observed that patients came with more advanced manifestations of their illnesses as individuals and their units became increasingly less able to afford to pay for treatment. Nevertheless, the province's immunisation programme was continuing to function and the severe drought led to no increase in those vaccine-preventable communicable diseases in children.

The mission pointed out that before 1949, disasters such as these would have led to large numbers of deaths. The success of food relief and rehabilitation programmes and the distribution of international assistance was attributed (ibid., p. 35) to:

(a) the long-established organisations – communes, brigades and production teams – which facilitated rapid mobilisation of people and the management of their participation in relief works;
(b) the organisation of the special task-force groups;
(c) the fact that leaders, cadres and the army actively participated in construction and rehabilitation works along with the labour force;
(d) regular monitoring by party leaders and officials;
(e) the provision of loans and other facilities for side-line activities such as vegetable production, fish harvesting, weaving, transportation and so on helped to generate quick extra income for the families;
(f) there was fast mobilisation of machinery from neighbouring areas for pumping out flood water, for digging and for preparing land for cultivation;
(g) there were significant donations of cash, clothes and grains by neighbours and people from factories and from other areas;
(h) timely cash, financial and commodity assistance were provided by the county, provincial and central governments.

CONCLUSION

The comments of the UNDRO mission on the organisation of relief after the floods and droughts of 1980–81, and the examination of the 1959–61 famine, provide at least a partial answer to the remaining question which was raised in the introductory chapter of this study: the extent to which changes in exchange entitlements may be modified by the existence of a centrally-planned economy. The

situation in 1959–61 was, of course, very different from that twenty years later. The extent of the disaster was much less in 1980–81. China's relationship with the outside world had improved out of all recognition, and the country was by then a member of the United Nations system. Aid could be requested, and the army deployed in relief works. Statistics were being gathered and analysed so that the government had a basis on which to act. The health services had had thirty years in which to become established. The organisational systems of the country were also well-established, and teams, brigades and communes had been welded together in over two decades.

Nevertheless, in both emergencies there are some common patterns. There does seem to have been an attempt to provide food fairly within a community, through a ration system. Local-level organisations – the team and brigade – administered what food was available and did so honestly, and families expected support from them rather than from kin-groups. Higher-level organisations – communes, counties and perhaps prefectures – moblised people and equipment to assist in relief works, and that mobilisation could be swift and effective because of the organisational structure. In both cases, a rapid recovery from the disaster was facilitated by the provision of resources and encouragement for expanded side-line production.

All of these patterns indicate a remarkable attainment of coordinated group activity, together with an underlying but pervasive adherence to the belief that problems are common ones, requiring common action and the sharing of any available resources. Even in 1959–61, it seems probable that such activities and attitudes helped to protect the most vulnerable from suffering disproportionately. They were not sufficient to prevent a terrible death toll, which resulted from the circumstances of the period and from the scale of the natural disasters. The more limited crisis of 1980–81 showed what they could achieve.

Some of these factors stem from the existence of a centrally-controlled economy. Such an economy can control the price, and the distribution, of grain more effectively than can a mixed, or free-market, system. It may also be able to switch resources more speedily into disaster areas, whether these resources involve the mobilisation of machinery, the despatch of additional commodities or personnel, or financial investment to help generate new income. One potential weakness of such a system, though, may be that it depends,

more than others, on a single statistical base. Should that collapse, as happened in China during the Great Leap, there are no alternative market reports to indicate whether the information on which decisions are being based is distorted or even worthless.

Other factors which have been identified as common strengths in both 1959–61 and 1980–81 seem to depend more upon the existence of a high level of organisation within the society, and an extremely elaborate and effective administrative system. Such systems are not necessarily the prerogative of any particular type of economy, and it is arguable that were Britain, for example, faced with a major disaster, its organisational and administrative structure would be able to identify needs swiftly, ensure rationed supplies to the public, and health measures to prevent widespread epidemics, and administer relief donations.

More debatable, perhaps, is whether in Britain – to keep to the same example – there would be the same intensity of local-level knowledge and discussion of which families needed which kinds of support, or of local-level loyalty and sense of a common purpose, which seem to have maximised the efforts of each community to help itself, and to have minimised corruption or profiteering. If Sen was using the phrase 'centrally-planned economy' as a synonym for a socialist system – as he occasionally seems to imply – then I believe that some of the Chinese experiences of the two crises can be attributed to the special features of that system.

The first such feature is that organisation, and communication within that organisation, reaches down to a very low level. There are not simply bureaucrats and the public at large. While it is true that China has both the world's oldest, and one of the most elaborate and often cumbersome, bureaucracies, cadres – both party and non-Party – function beyond that bureaucracy, and may be found in every village, responsible for certain clearly-defined aspects of village life, such as health services or production. Such cadres know their neighbours intimately and are equally well known by them; their responsibility for discovering individual needs in a crisis is facilitated and the opportunities for corruption or favouritism are correspondingly limited. They help the local community to function with a common purpose, and they must have organised or at least connived at the local grain stores in 1959–61 which kept back some food for the peasants despite the inflated procurements demanded by the government. In 1980–81 much of the smooth functioning of the relief system, and the control of epidemics and the continuance of

preventive medicine, can be attributed to these team, brigade and commune-level cadres.

The other significant feature is a less tangible one: the promise, or the prospect, offered by the socialist revolution in itself. Despite the disillusionments of the past thirty years in China – the upheavals, the policy swings, the purges and the excessive sacrifices made by the peasants themselves – the belief in a better future for all has not entirely disappeared. The 'descending spiral' of the great famine did not lead to a peasants' revolt and an overthrow of the government, which is perhaps more surprising to us now, with the hindsight of knowing just what fatalities were suffered, than it was to the commentators of the period. One can only speculate as to why it did not. It may have been that the peasants were never maddened, as in the past, by the sight of the wealthy or the landlords eating their fill while others starved. A feeling of equality – that the people had 'stood up' – may have given each life, and death, a dignity which was absent from the huddled bodies of anonymous victims of earlier famines. The sense of a common misfortune, involving the whole community, might have been easier to bear. Certainly the recognition that the community provided support as fairly as possible, and that welfare funds from it helped to protect the most vulnerable, must have underlined the rationale of the new system. By 1980–81, in Hebei and Hubei, these now 'long-established' organisations of teams, brigades and communes had proved their worth.

If the peasants were largely incapable, in 1959–61, of extending a new-found feeling of brotherhood beyond the confines of the brigade or commune to recognise the competing and in some cases even more severe needs of those in other provinces, or in China as a whole, that does not negate the growth of such a sense at local level.

Fundamentally, Sen's question was the question of whether famine could be averted in a centrally-planned economy; whether the elimination of the speculations and hoarding of grain-merchants, the laying-off of peasant labour when the harvest fails, and the price rises which make it impossible for the peasants to buy food, would make natural disasters controllable. The evidence from this study does not make it possible to answer this underlying question with an unequivocal 'yes'. It is true that the crisis of 1980–81 provides an almost classic example of how to avert a famine in two provinces of China with a combined population of over 100 million – larger than all but a handful of the world's countries. The achievement was a remarkable one by any standards and it shows what can be done

when the typical 'man-made' contributions to famine are eliminated.

It does not show, however, that natural disaster on a sufficiently large scale could not, once again, result in a famine in China. Grain output, as has been stated, has only just kept pace with the growth of China's population, leaving the *per capita* allocation, in the early 1980s, at very low levels and only a little above that of the 1950s. This *per capita* average disguises, as in the past, very unequal distribution between provinces and even within provinces. The peasants of China may no longer be standing up to their necks in water, but it has not receded very far. The government's efforts from 1971 to reduce the level of population growth, and the much more intensive campaign from 1978 which was even, uniquely, designed to achieve a long-run reduction in the total population, have been based in a large part on the recognition of the difficulties of feeding the world's largest population. China currently has over 1000 million people and, because of the young age-structure of the population, will, despite the successes of the family planning programme, have between 1200 and 1300 million at the end of the century. Should a situation occur like that of 1959–61, where the output of grain fell by a quarter, and where the disaster hit a large number of provinces, severe hunger would, surely, occur again.

It would be mitigated by a now efficient statistical monitoring system, which would be able to alert the government to the crisis at an early stage. Thus procurements would be set more realistically and steps taken to meet the problem. A growing economy would enable the Chinese to buy additional grain on the open market, and its current relationships with other major governments and membership of the United Nations, would mean that relief was available. But the amounts needed, in the event of a series of disasters on the scale of 1959–61, would be very large indeed: to replace 25 per cent of the 1982 grain output would require some 90 million tons. As an indication of the kind of demand such a loss would make on the rest of the world, we can look at that major wheat exporter, Australia: total production of wheat in that country in 1982 was 16.4 million tons.

Communications networks to deliver that relief have improved and are continuing to do so, but a recent report (Delfs, 1985, p. 51) stated that while railway capacity is used very efficiently, it is burdened by coal (largely from the north-east), which makes up 38 per cent of railway freight volume and is essential for China's industry (mainly along the coast and eastern river provinces). Meanwhile, China's

road network is a third less than that of India, and more than 85 per cent of roads are ungraded and unsuitable for heavy trucks or all-weather use; about 25 per cent are mud tracks. There is no inter-urban or inter-regional network parallel to the railway system. The prospects for rapidly moving large amounts of grain in the event of a major crisis are poor.

The likelihood, in the event of another 1959–61, of sufficiently large amounts of food being received in China and being distributed rapidly to a large number of provinces, especially the remoter ones, in time to stop hunger turning to famine and malnutrition to death, seems to be small. Certainly the measures described by UNDRO as averting famine in 1980–81 would help to minimise the scale of mortality, but in such circumstances they would hardly be enough to prevent it.

Thus one can make only a qualified answer to the question of whether a centrally-planned economy can avert or manage famine in different and better ways than has been the experience elsewhere. Centrally-planned economies do have a greater potential for limiting the effects of a disaster than others; a highly efficient administration is essential in the management of a potential famine; and both these factors may be found most often in a country organised along socialist lines – which may also have a commitment to the common good which helps to mitigate suffering. Such factors may eliminate class-based famines, or those which are limited in scale. It is, however, unlikely that they could entirely avert deaths in any large country or region of the world which is poor, has a precarious food balance and limited communications. Very large-scale natural disasters are, fortunately, infrequent: it would be a mistake to assume that, because they have been few in recent decades, the world has learned how to deal with them.

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